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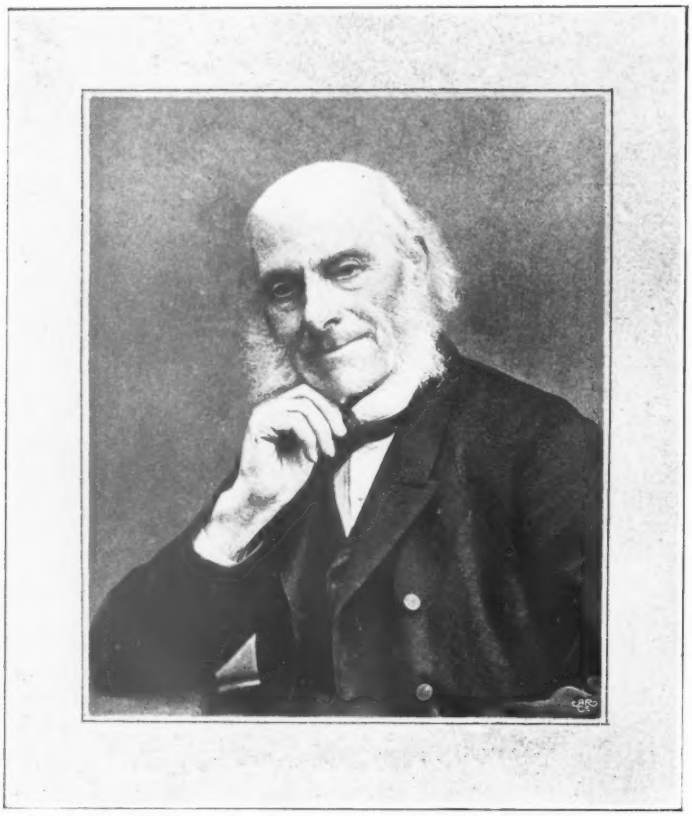

From a recent Photograph.

FRANCIS CRANMER PENROSE, M.A., F.R.S.

KNIGHT OF THE ORDER OF THE SAVIOUR IN GREECE,

ROYAL GOLD MEDALLIST 1883, PRESIDENT.

Yours sincerely F C Penrose

JOURNAL

OF

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

NOVEMBER 1894—OCTOBER 1895

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JOURNAL

OF

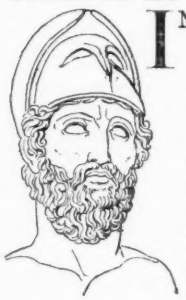
THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

SESSION 1894-95.

THE OPENING ADDRESS.

Delivered by the President, FRANCIS C. PENROSE, F.R.S., at the First General Meeting, Monday, 5th November 1894.

COLLEAGUES AND GENTLEMEN,—



IN the Annual Address of former Presidents you have naturally expected, and have not been disappointed in receiving, a general account of the progress of the Institute and of its undertakings, especially during the interval which had elapsed since the previous Presidential discourse. One of the subjects dealt with in the last Address concerned the commencement and the early stages of the JOURNAL. Now, however, the JOURNAL, which has become a great success, stands in no need of special encouragement, so that it is neither necessary for me to say anything in its favour—unless it be to thank those engaged upon it for the great trouble they have bestowed upon the work; nor is it necessary for me to dilate upon the affairs of the Institute, which are chronicled in its pages both better and more freshly than I can hope to tell them. A few points only seem to invite mention. I think I may say, without any exaggeration, that the Institute has continued to gain both in position and influence. As to the gain in members, without reckoning most welcome support given us by the Allied Societies, if we compare the numbers, I will not say sixty years ago—a date of which we were most agreeably reminded in July last—but taking fifty years ago, the increase is remarkable enough to be worth mention. The class of Fellows numbered at that time but little over one hundred; there are now more than six hundred. There were then some eighty Associates only; now there are nearly nine hundred—and this notwithstanding the barrier which has been surmounted by most of the later members. I mean the Examination.

I think it is now generally recognised that the Examination in Architecture has fully justified its establishment; at any rate, it has become a great Fact. And it seems important for me to call attention to this point—namely, that the present month brings the former and partly tentative arrangement to a close, and from henceforward begins the system of Progressive Examinations, the details of which will be found fully set forth in the recently issued KALENDAR. I consider that these Examinations cannot but have an excellent effect—

first, and directly, in securing to our future members the reputation of having satisfied a certain standard of proficiency; secondly, and indirectly, by excluding from the Institute in the first instance, and by reaction from the profession at large, young men whose abilities would be more advantageously directed towards the pursuit of some other calling. Some excellent remarks on this head have lately been made by the President of the Architectural Association in his Inaugural Address to that Body. A summary of our Examinations during the past official year gives the following results, namely:—

(1) In the Preliminary Examination 165 attended. Only one was "plucked," 28 were relegated for a term, and 136 passed.

(2) In the Intermediate Examination 55 attended. Not one was rejected, 19 were relegated for periods, and 36 passed.

(3) In the Qualifying Examination 176 applied, but only 150 attended. Three were rejected, 84 were relegated for periods, and 63 passed.

We welcome also the signs of useful examination in building construction inaugurated by other Bodies. The revived Guild action of the City Companies—to use the term applied to it by Mr. George Shaw, late Master of the Worshipful Company of Plumbers—is a circumstance favourable to sound execution. I have had pleasure in following in the steps of my predecessors, Mr. Macvicar Anderson and Mr. Waterhouse, at examinations conducted by the Worshipful Company of Carpenters.

I cannot leave the subject of membership without reminding you that the Charter declares the Institute to consist of "three classes of subscribing members, namely, Fellows, Associates, "and Honorary Associates"; and though both the Fellows and Associates are steadily increasing in numbers, the Honorary Associates have been allowed to dwindle from 115 in 1878, to 60 in 1894, a decrease of nearly half—due, I am inclined to think, to a misunderstanding of the objects and principle which dictated the establishment in 1877 of this class of members. Honorary Associates are defined in our Charter as "persons not professionally "engaged in practice as architects," but "who, by reason of their position or of their eminence "in art, science, or literature, or their experience in matters relating to architecture," may "render assistance in promoting the objects of the Royal Institute"; and a by-law fixes the annual subscription of an Honorary Associate at a minimum of two guineas, with an entrance contribution of two guineas, which is paid forthwith into the Library Fund. Now some have thought that under such circumstances the title of Honorary Associate is a misnomer, because the term "honorary" should imply that such member is not a subscriber, and therefore no efforts are made to increase this class of members; but the term "honorary" ought not to be defined in so exclusive a sense. The French Royal Academy of Architecture, founded in 1671 by Colbert, consisted of three classes of members—Academicians, who were architects; Honorary Associates ("Les honoraires associés libres"), who, without professing architecture, were distinguished by their knowledge of that art, or those relating to it; and of Associates or Correspondents, both native and foreign. The title "honoraire" was used in the sense of our word "lay," or of the French word "libre," and it is in that sense we define it, and according to its true etymology, in the sense of conferring honour. The words of admission of Honorary Fellows in our Universities are "*In honoris causâ*." Moreover, we do not look upon our Honorary Associates as merely ornamental appendages, who give us the encouragement and honour of their names but are not expected to take any part in our proceedings. They form part of the electorate, and have the power of voting for the Council and the Standing Committees, and at the General Meetings on all matters except professional points and the admission of candidates, and we look to them for helping to spread a knowledge of architecture among all classes of the educated community. I am convinced that the develop-

ment of this class of non-professional members will greatly enhance the usefulness of the Institute. We should wish to enrol in our Honorary Associate class many more painters than are now in its ranks, a large number of sculptors, engineers at home and abroad, the masters of the great crafts, and the more prominent of those thinkers and workers who, by their books and discourses, disseminate love and respect for the several arts and sciences of which the embodiment is architecture.

There is another section of membership of the Institute, pertaining to the non-subscribing classes, which has always seemed to me to form an essentially important part of corporations such as ours—I mean the class of Corresponding Member, or Foreign Correspondent. At present the majority of such members is distributed over France, Germany, and Italy. We have two in Denmark, two in Sweden, two in Spain and Portugal, two in Greece and Turkey, three in Austria, four in the United States of America, five in Belgium and Holland. Now I want to see Austria and Hungary largely represented in our ranks; and it is gratifying to know that two of the most distinguished architects of Budapest—a magnificent city, of which too little is known in this country—are nominated for election. I should be glad to see Austria at least as fully represented among us as Italy is; and I hope that the increasing popularity of Spain as a resort for study among the Students of the Institute may lead to an exchange of ideas, a reciprocity of knowledge, between the architects and students of the respective countries. Most, if not all, of the greatest European architects and archæologists have been Correspondents of our body, and even in 1842 they were 55 in number; while at present, after the lapse of half a century more or less prosperous, we have only 49. But, what is still worse, a startling omission occurs in this list: the architects, archæologists, and similarly learned men of Russia are absolutely without a representative among us. A few years ago we possessed Constantine Thon, Professor Strohm, and Professor Resanoff, and in 1842 there was Alexander Bruloff, of the St. Petersburg Academy of Fine Arts. Some attempt, I think, should be made to renew the ties of confraternal association which have existed, and which ought always to exist, between the architects of the mighty Russian Empire and ourselves. There never was a moment when such a reunion could be attempted with more chance of success than now. Indeed, Lord Rosebery—who, in the patriotic speech he delivered in Sheffield at the Cutlers' Feast, in which I had the honour to participate as your representative, expressed the unanimous feeling of this country toward the dying Tsar—cannot desire to retain relations of friendship with the whole population of Russia more heartily than we do with that portion of it which comprises our own profession. Whilst recalling my visit to Sheffield, I must not omit to mention the kind reception I met with there from the members of our Allied Society.

THE LONDON BUILDING ACT, 1894.

I have almost completed the observations I wished to make upon what may be termed the personal affairs of the Institute. But there is one point to which I think your attention should be directed. I allude to the present position of District Surveyors in London.

A new Metropolitan Building Act has passed the Legislature, with so many new provisions that it will require much study on the part of those who have to enforce it as District Surveyors or to obey it as Architects. For some of the enactments, at any rate, we may be thankful; I refer particularly to those which impose limits—lofty enough, indeed, but still limits—to the height to which houses may be carried both front and back. For amendments in many provisions of the new Act, made after careful consideration, the Metropolis is largely indebted to our Practice Standing Committee, and particularly to Mr. Arthur Cates, Mr. Rickman, and Mr. Edwin T. Hall, who, with representatives from the Surveyors' Institution, assisted at a prolonged conference on parts of the original Bill with a Committee of the London

County Council. I will not, however, enter into the subject further—indeed, it would be premature to do so, as the complete Act is only just published. Valuable comments on leading points have already appeared in the Building Journals. An Abstract of the Act is promised by Professor Banister Fletcher in a few weeks, and I have more recently learned that another work of the same kind, by Mr. Statham, is expected to be published by the end of the present week. Under this measure—the London Building Act, 1894—which comes into force on the first day of next year, the Institute remains the Examining Body for granting Certificates of Competency, without which no person can become a candidate for the office of District Surveyor in London. This Statutory Examination, until the present County Council imposed the condition that a District Surveyor shall not practise as an architect, was always well attended, and those who presented themselves for examination were generally men who had not only received the education of an architect, but had practised as such. Not long ago this Statutory Examination was held quarterly, and the Examining Board had then much to do in order to finish the oral part of the examination on one day. But now very few persons apply to be examined, and during the last official year the two examinations announced to be held did not take place, owing to the want, or perhaps the paucity, of candidates. Yet a District Surveyor, if he is to do his duty by the London Council who appoint him, as well as by the architects whose buildings he has to inspect, should have that knowledge of architectural science or building which can only be acquired by an architect who has been engaged for, say, seven or ten years in the active practice of his profession. I will not go into the question whether a District Surveyor ought, or ought not, to be allowed the right of private practice, but I am certain that he ought to have practised as an architect before attempting to fulfil the duties of a District Surveyor under the London Building Act. Is there, then, anything unreasonable in the suggestion that the London Council would do wisely if they included among the conditions of such appointments the proviso that every candidate for the office of District Surveyor in London shall have previously qualified for admission to the class of Associates of this Institute, and have either passed thence to the class of Fellows, or have become admissible, by length of practice, to that class?

THREE THAMES BRIDGES.

We have lately seen brought to completion by our Honorary Associate, Mr. Wolfe Barry, a great engineering work with which the late Sir Horace Jones was originally associated as architect. If he had lived to superintend the completion of the design of such parts of it as lay in his department, he would, probably, have left the towers more massive in appearance than they are. It is, indeed, greatly to be wished that association between architects and engineers, in cases where their provinces overlap, were more frequent than it is. I well remember Professor Cockerell regretting a lost opportunity of the kind in the case of Waterloo Bridge. Sir Robert Smirke had offered his assistance to Mr. Rennie in profiling and adjusting the Doric columns which formed part of the engineer's design; but the latter declined. The baldness of those columns is a serious defect to the beauty of the bridge—which, indeed, would have been handsomer if the columns had been omitted altogether; and one of the good results of the Tower Bridge is that it relieves the necessity of tampering with the noble simplicity of London Bridge.

THE WEMBLEY PARK TOWER, ETC.

In contradistinction to works which are satisfactory for their actual or hoped-for achievement, I feel called upon to mention one of which the stoppage would, it seems to me, be matter for congratulation; and to express the hope that no further progress may be made with the work, unless it be to convert what has already been done into something far less pretentious

than the original intention, which, if carried out, would spoil the scale of everything else for miles around. I need hardly explain that I refer to the incipient structure of the huge steel tower at Wembley Park, in the north of London. Possibly, if its lower storey were turned into something of the nature of the hanging gardens of Babylon, it might be an interesting and unobjectionable structure; but if the original scheme is to be carried through, you will, I think, agree with me in wishing confusion to a new Tower of Babel.

Again, with regard to another point, which is not, I fear, so much attended to as it ought to be. It cannot be too strongly insisted upon, that when new buildings are erected by the side of old buildings of established architectural merit, the utmost care should be taken that the new works do not injure the effect of the older. I think many of us must often have been much pained in witnessing such injurious treatment of old and venerated monuments. I am particularly thinking of the case which our late President so much and so eloquently lamented, namely, the new buildings of King's College abutting with such small consideration against Somerset House, notwithstanding the most laudable attempt of our Council to prevent its being done. Another case of the kind has occurred, but not so recently, at Exeter. There was till comparatively lately, as in the case of several of our cathedrals, immediately contiguous to the west front of Exeter Cathedral, a small church, of no remarkable architectural value certainly, but which by its very smallness gave valuable scale to the cathedral. At a later visit I found it had been replaced by a church of much larger proportions, and the merit which its predecessor had with reference to the cathedral was entirely lost. In my opinion, though the wants of the parish may have required the enlargement of the church, there was no occasion for the architect to have so raised the tower and spire as to overtop the venerable cathedral.

"ARCHITECTURE: A PROFESSION OR AN ART?"

I shall not attempt to meddle with the controversy which some time since was raised as to whether Architecture is an art or a business. The two elements are no more separable than are Faith and Works; and our teaching to students properly takes cognizance of both. To the Art element, and the thoughts more immediately connected with it, I propose to confine myself in what I have still to say to-night.

THE THREATENED DESTRUCTION OF PHILÆ.

The original sources from which we derive our Art must always have an intense interest for us, and whilst we are in hopeful expectation of new light being thrown upon Greek archæology from the researches of the French at Delphi, under the experienced and skilful guidance of Monsieur Homolle, Director of the French School at Athens, we are not indifferent to grievous tidings which come from Egypt—a strange proposal which, having been more or less vaguely in the air for some time, has recently assumed alarming consistency. I refer to the proposed Nile barrage, to be built across the river at Assouan for the purpose of storing up the waste waters of the annual inundation in a huge reservoir, in such a manner as to submerge and ruin a series of the most beautiful and interesting remains in the country. The JOURNAL has contained two or three valuable Papers on the scheme, particularly one by Monsieur Naville in August, but the subject is so important and interesting that it seems to demand some mention here. The deluge which is threatened would extend from Assouan as far as Korosko, a distance of fully one hundred miles, forming a lake of which there would be no parallel in Europe, submerging the Island of Philæ with its celebrated group of temples, of the highest beauty and artistic value, and eleven or twelve other important sites, particularly the fine and very perfect temple at Kalabsha. In addition, moreover, to what we know would be

lost, it should be noted that as the region of Nubia in which they occur has not been so carefully examined as most other parts of ancient Egypt, it is more than probable that many objects which would otherwise reward future exploration, if they remained, as now, accessible, would be lost for ever.

Again, if anything happened to the dam, what would be the fate of Lower Egypt, of all its inhabitants, and all its treasures? We need not fear but that the engineers would do their best to make it secure; but sad instances of the failure of reservoir dams, where everything ought to have been well constructed, are not unknown to us, and the region has been subject to earthquakes so violent as to throw down even Egyptian structures.

The proposal has, unluckily for our point of view, much that is tempting to utilitarian minds; and we are not, as a nation, exempt from the reproach of yielding in cases where men of business have had to choose between sentiment and prospective gain. In the case of the Nile barrage, we must do the Egyptian Government the justice to say that they would seem to deplore the injury to Art and History which would follow; but the premium which is held before them is so large that we may feel sure that any attempt to oppose an absolute negative to the scheme would be simply futile; nor would it be right. Our own Government, again, are doubtless in no enviable position in the matter. If by an exercise of power they were to prevent the work from being undertaken, it is easy to see what a deep and, maybe, dangerous feeling of disappointment would arise in Egypt; whilst if they consent to it, they would incur much obloquy both at home and abroad. As for the Island of Philæ, it is true that a scheme has been proposed for lifting the remains above the surface of the reservoir; but it can hardly have been proposed seriously. It would be ruinously expensive to do it at all adequately, and would quite destroy the value of remains now perfectly adapted to the island on which they stand. Practically, the attempt, if made, could not fail to be worse than submergence. It has also been suggested that a dam of less elevation, placed above instead of below the Island of Philæ, would for a long time answer all legitimate demands for water-storage, and would involve a much smaller sacrifice of valuable antiquities or disturbance of inhabitants; and, if at some future time the demand should arise for a larger supply, other means not now available—new sites, for instance, above Wady Halfa—might be found. We may, at least, hope for the escape of Philæ and some other of the Nubian antiquities; and this gradual method of procedure would seem to fit in with the expectations of the proposers of the barrage, for the supposed profits on which the scheme is based are not to flow in at once, but, as Mr. Garstin, Under-Secretary of State for Public Works in Egypt, himself says, the *great expectations* are founded on an eventual increase "which will take years to arrive at." On this subject I would draw your attention to a pamphlet printed by the Society for the Preservation of the Monuments of Ancient Egypt, in which a more gradual method of water-storage is strongly advocated.

As regards the main proposal of this barrage, we have, indeed, no resource but hope; and in this I am encouraged by the remarks of our distinguished Honorary Associate, Sir John Fowler, who presided at a recent meeting of the Egypt Exploration Fund, when he took occasion to state that there was now little danger of the destruction of Philæ; that further inquiry had shown that the material necessities of Egypt and the claims of archæology were capable of reconciliation. There is, however, another aim; which we need not relegate to the transcendent, but also transcendental, virtue of Hope. And towards this you have taken a valuable step by appointing, through your Council, delegates to a Conference in which the Royal Society, the Society of Antiquaries, the Society of Dilettanti, and the Hellenic Society and others, are represented, for considering the best manner of instituting a thorough survey, architectural, archæological, geological, and physical, of the district the

submergence of which has been threatened. This Conference was initiated by the Society for the Preservation of the Monuments of Ancient Egypt.

OLD AND NEW METHODS OF DESIGN AND PRACTICE.

Turning homewards, it may be useful to institute a comparison between some of the results of architectural work of the present time, and works of an earlier period in this country. In making this comparison we must not lose sight of the great differences in the two periods, both in respect of the demands upon the architect, and of the materials available to his hand. The greater complexity of the conditions of modern life is unfavourable to the modern architect in some respects. It requires him to spend a large portion of the funds available for a building in work which, however important, can produce no æsthetic effect, and the many calls upon him to satisfy a variety of wants must necessarily make it very difficult to secure that charm of simplicity and proportion which is an essential ingredient in work of the highest quality; indeed, with so many importunate claimants for attention, the time which must have been devoted to rhythm and harmony by the older architects can now seldom be spared. There is, therefore, a great temptation to accept a premature solution of the problem, provided the requirements of the plan appear to be satisfied, and provided the resultant grouping, however haphazard it may be, accords with some ideal of picturesqueness which natural or acquired taste can generally secure. I do not, however, venture greatly to blame this result. It is far better that a good plan should command the obedience of the elevation, than that a preconceived symmetrical elevation should force the plan into inconvenience. Nevertheless, a more excellent way is almost always possible where the plan shall still rule, but with all the difference between marching order and broken ranks; though, as I said, it may require more time for working out than can be spared in any particular case. Genius has been defined as the power of indefatigable study. Such genius is, indeed, very necessary for the highest achievements of architecture. There are certain buildings, such as club-houses, theatres, town halls, and, above all, ecclesiastical structures, which lend themselves much more than others to be treated by the rules of Art; but there are none, not even the most humble, which may not be improved through study with an eye that loves proportion. It is a duty the profession owes to the public to do this on every possible occasion.

There is another point in the comparison between the older and later architectural works which seems to be deserving of attention, but whether it admits of being to any great extent brought into operation I do not venture to say. The modern architect, owing to the way in which drawings, specifications, and bills of quantities are prepared, and the exactness with which contract works are expected to follow out those documents, has seldom, if ever, the same freedom in studying his design as it develops itself, and in making improvements which suggest themselves as the work goes on, that our predecessors had two hundred years ago. The designs made by Sir Christopher Wren for St. Paul's Cathedral underwent great changes during the progress of the building, as there are many extant working drawings to show. Some liberty, of course, we have by the usual conditions of contract, but the greater rapidity of modern construction, and the fear of additional cost to the employer, limit considerably the free use of those conditions; and this want of elasticity, so to speak, in availing ourselves of opportunities offered by the study of our works whilst in progress, is one of the points in which the older architects had a great advantage over us.

A PERMANENT GALLERY OF BRITISH ARCHITECTURE.

Let us now compare the works of some of the older with those of more recent architects. Before doing so, however, I would urge upon those in whose hand rests the power of developing

the means of architectural study, to consider the possibility of forming a permanent exhibition of drawings representative of English architecture. The suggestion, indeed, is not new, nor is it mine; but I have received a letter on the subject from our Fellow, Mr. W. Howard Seth-Smith, which is so much to the point that I propose to read a portion of it. He says:

> If we are to look for real and permanent progress in architectural design, we must in some way create public interest and enthusiasm for beautiful building. A permanent exhibition would be the very best means of gaining public interest in our art. It is the Galleries which have made art more popular. It may be true that the public do not understand geometrical drawings such as are annually exhibited for three months in one small room at Burlington House, but there is a very considerable and increasing number of persons sufficiently interested in Architecture to appreciate keenly, and to compare critically, the merits of buildings if represented by photographs and other perspective views.
>
> It is on the face of it unfair to subject an exhibition of architectural designs (largely geometrical) to competition with a mass of popular pictures, as is the case at the Royal Academy; but this is the only opportunity existing in London for a person to watch the progress of English Architecture. While the amateur's opportunities are confined to the ancient buildings themselves, his prejudice against all modern work is likely to be as invincible as it is unreasonable, and therefore fatal to progress. Nor is he, as a rule, capable of studying modern work profitably by perambulating the streets; his knowledge will be too small to enable him to distinguish the good from the bad. The choice specimens (alone worth the attention of the student) are, with few exceptions, scattered too widely or hidden too deeply amid the utilitarian wilderness of London to make this practicable.
>
> I would propose that a permanent Exhibition be organised of most carefully chosen architectural illustrations of the best ancient and modern designs, classified under all the great divisions of building, such as Civil, Ecclesiastical, Domestic, Scholastic, &c. There should be one department for photographs of selected ancient work, chronologically and topographically arranged, and carefully described. This would supply the urgent and often-expressed want of an illustrated lesson on the characteristics and developments of the great architectural epochs and styles of the past.
>
> Such an exhibition would at once be popular among the rapidly extending connoisseurs of art, would be patronised by persons of enterprise and intelligence desiring to build, and would doubtless be largely visited by Americans and foreigners.

I certainly consider Mr. Seth-Smith's proposal one of great importance. To be of any service it would require to be carried out in an effective manner, and if this were done, it could not fail to be advantageous both to our profession and the public at large.

Returning to my proposition before stated, the list of the architects to whom I propose to refer begins with the two greatest names on our record, namely, Inigo Jones, who practised in the reigns of James I. and Charles I.; and Sir Christopher Wren, who practised in those of Charles II., James II., William and Mary, and Queen Anne.

INIGO JONES.

Inigo Jones had settled at Copenhagen, and the King of Denmark's sister, who married our James I., brought him back to his native country. He then travelled for further study in Italy. The beautiful fragment at Whitehall is, as you know, only a small portion of the magnificent palace which he designed for King James, preserved to us, no doubt by the liberality of Lord Burlington, in Kent's fine edition of Inigo Jones's works. Besides the Banqueting House, there are but comparatively few remains of Inigo Jones's buildings in London. We have lately lost a very interesting work of his in Lord Shaftesbury's house in Aldersgate Street, which was taken down about ten years ago. It had already suffered much, but was still a noble fragment. There is also the much-mutilated east front of St. Paul's, Covent Garden, and the Piazza on the north side of the Market; and there is the Water-gate at the bottom of Buckingham Street. This gate, although it retains its beautiful proportions, has lost much of its interest now that it no longer gives access to the river; but its preservation under any circumstances is a thing to be grateful for. A house on the west side of Lincoln's Inn Fields still shows the handiwork of Inigo Jones. Ashburnham House, Little Dean's Yard, Westminster, built by him, has been much altered, but there are remains of his work in the

interior. There are probably a few others, but a good deal has been attributed to him on insufficient grounds.

WREN'S PRINCIPAL WORKS.

Sir Christopher Wren's first work of any importance was the Sheldonian Theatre, Oxford, designed by him in 1664—a building which still admirably answers the purpose for which it was constructed. At this time Wren was busied with various designs for altering old St. Paul's, which had survived in a very ruinous condition the ill-treatment of the sixteenth century and of the Commonwealth. The Great Fire in 1666 put an end to all attempts to repair and alter it, and made a new building necessary. I am not intending to dilate upon the existing Cathedral, which you all know so well, and in which there is so much to admire, but I should like to call your attention to a design which is even more distinctly Wren's than the existing Cathedral. I refer to his first and favourite design, for which an elaborate and large-scale model was prepared. This model still remains, bearing traces of the neglect from which it suffered during many years; but I am glad to be able to inform you that it is undergoing restoration, though progress is necessarily slow. It is, however, in sufficient preservation to enable Sir Christopher Wren's merit to be fully appreciated. We have here, by Mr. Goodchild's kindness, two splendid drawings representing the interior of the Cathedral as it would have been if Wren had been allowed to execute this design. I do not say that it competes on equal terms externally with the existing structure, especially when we consider the height of the surrounding buildings, which gives the value of greater loftiness to the adopted design. But when we consider the two interiors, the balance altogether preponderates in preference of Wren's favourite design. As for certain defects in it, which Fergusson in his *History of Modern Architecture* discusses, we must remember that Wren had not, in the case of this design, as he had in the adopted one, thirty years of study and improvement to give to it as the work proceeded; but this marvellous production was the outcome of, necessarily, a very rapid incubation.

The late Rev. J. L. Petit, the exhibition of whose splendid water-colour drawings at the Institute some of us may remember, in discussing Saint-Front, Périgueux, and what has been and still might be derived from it, observes that Wren—who, though he may not have known Saint-Front, must have known St. Mark's, Venice, from which Saint-Front was derived—"had conceived a design" (namely, this his favourite model) "on similar principles, which, "had it been carried out, would have given his Cathedral the noblest interior in the world."* I commend the whole passage, and indeed the whole book, to your study.

It is evident that Sir Christopher Wren's designs embodied the result of much study and many approximating revisions in preliminary sketches, carrying out in this the precept of Horace, "*Sæpe stylum vertas*," which may be familiarly translated, "Use your indiarubber "freely"; and when the final result was attained, I believe we shall always find that he considered rhythmical proportions as essential to completeness in architectural design as they are to poetry. I find the same thing in the two buildings of Sir Christopher's I have chiefly studied—namely, St. Paul's Cathedral and St. Stephen's Walbrook †—and I have no doubt it obtains also in his lovely creations of Bow Steeple, St. Vedast, St. Martin's Ludgate, and others of his works, which possess admirable qualities of elegance combined with simplicity.

WREN'S PUPILS AND FOLLOWERS.

The most conspicuous of Wren's followers were his pupil and assistant, Nicholas Hawksmoor, and Vanbrugh and Gibbs, to whom may be added, as an associate, Dean Aldrich, who

* *Architectural Studies in France*, p. 78.

† See TRANSACTIONS, Vol. VI. N.S. p. 243.

built the church of All Saints Oxford, and the Peckwater Court of Christ Church, in a style much in harmony with that of his friend, Sir Christopher Wren. The three first-named have left stately monuments. To mention only one work of each: Hawksmoor has given us, in his church of St. George Bloomsbury, a monument worthy of the classical feeling he had imbibed from his master; James Gibbs, in his church of St. Mary-le-Strand, a work of great elegance, which I select from among his other buildings for the purpose of recording the gratitude due to our late President for the zeal and pains he displayed in its restoration a few years ago, when its demolition was threatened by the utilitarians of the day; and Vanbrugh at Castle Howard, a noble pile, more pure than Blenheim. Vanbrugh, however, failed to impart —as Wren did—sufficient elegance to his powerful masses.

The above-named architects represent in date the middle of the seventeenth and the dawn of the eighteenth century, and they are the authors of standard works with which it is hard for the modern schools to compete. The middle and end of the eighteenth century witnessed performances many of which were not wanting in dignity, but they offer a less uphill match to our own time. We must, of course, accept a common ground of comparison; for Gothic architecture was almost unknown in the eighteenth century—though an exception to this statement ought to be made in the case of the architect Essex. Limiting the inquiry, therefore, to the revived classical styles, the names of Lord Burlington and his friend Kent, and Kent's pupils, Flitcroft and Vardi—the latter the builder of Spencer House, in the Green Park —the younger Dance, Sir William Chambers, and James Gandon, the architect to the Four-courts in Dublin, and distinguished as being the first to receive the architectural gold medal of the Royal Academy, stand out pre-eminently. There is a simplicity and fitness for its purpose about Dance's principal works, Newgate and St. Luke's Hospital, which are worthy of being carefully noted. Sir William Chambers's great work, Somerset House, notwithstanding many effective new buildings on the Embankment, maintains its pre-eminence, and the Strand front and entrance may still be said to "hold the record" of similar combinations.

A little later in the century lived Wood, the architect of Bath, whose palatial building of Prior Park is one of the ornaments of the eighteenth century; also James Wyatt, a man of versatile genius, and Robert Adam have left works of merit. At the turn of the century came Sir John Soane, whose most remarkable design, the Bank of England, has the merit of being thoroughly characteristic of the purpose of the building, following in this the spirit of his master, the younger Dance.

THE BRITISH ARCHITECTS OF THIS CENTURY.

When we come down to more recent times, by which I mean the first quarter, or half, of this century, I find among the names of the architects some whom I myself remember when I settled in London as a pupil to Edward Blore in 1836. One of my first memories was the exhibition of the designs for the new Parliament Houses. They were exhibited in the rooms in Trafalgar Square, which had only lately been completed, and had not yet been assigned to the Royal Academy, whose exhibition for that year was still held at Somerset House. Sir Charles Barry's design was approached by no rival. Some drawings were, indeed, sent in by Cockerell, but he had evidently not entered seriously into the struggle. Blore did not compete. So far as my judgment at that time can be trusted, the best of the unsuccessful designs was by Basevi. Besides the four just mentioned, the names I recall as the leading London architects were Samuel Angell, Tite, Hardwick, Sydney Smirke, Donaldson, Salvin; and, as a writer, Gwilt. For Sir John Soane, Sir Robert Smirke, Wilkins, Inwood, and Decimus Burton, though living, belonged to an earlier decade; Thomas Henry Wyatt, Sir George Gilbert Scott, and Sir James Pennethorne had scarcely at that time made their mark;

and William Burn was just migrating to London from Scotland. I omit Augustus Welby Northmore Pugin, who, as far as the competition for the Parliament Houses was concerned, was, as it was already known, giving his assistance to Barry.

At the time to which I refer, I consider that, with the exception of Pugin, Blore was the only architect who was quite at home in the detail of Gothic architecture. The full development of the Revival had not come in, and it was the "day of small things"; but whilst we may reasonably complain of a want of massiveness for the most part in his works, there is a sense of elegance about his buildings which raises them above the level of the majority of the contemporary works of Gothic revival. There are not many of his buildings in London. The exterior of the Church of St. Thomas Charterhouse, in Goswell Road, may be cited as a good specimen, allowance being made for the decay of the Bath stone used in the decorative parts, the inability of which material to resist the London atmosphere was not so fully recognised then as it has been since.

Among the best buildings of the same period are two works by Shaw—the hall of Christ's Hospital, and the tower of St. Dunstan's-in-the-West; fortunately a better stone was used in their construction.

The first place in the period I am considering—for I purposely do not refer to the names of men who, like William Burges and George Edmund Street, attained distinction in Gothic during the second half of this century—must be assigned to Sir Charles Barry, not only on account of his great work, the Parliament Houses, in which, whatever amount of freedom in detail he may have allowed to his coadjutor, Pugin, his great power of dealing with the masses was conspicuously his own. But independently of this, the Reform and Travellers' Clubs and Bridgewater House, to mention no other of his works, suffice to secure him this position. Barry was a man of extraordinary energy, of unwearied industry, and of a powerful presence, qualities of the utmost importance to anyone engaged in works of such a scale as those which were entrusted to him, especially when combined with a courteous manner, of which I personally had the highest appreciation when he was on the Committee assisting Dean Milman in the works intended for the completion of St. Paul's Cathedral.

The man of greatest distinction after Sir Charles Barry was unquestionably Professor Cockerell, a name deservedly revered and honoured, whose buildings include some of very great merit. Cockerell laid the foundation of the classical expression found in his works by an exhaustive study of Greek remains, of which he was an eminent and ardent explorer in days when such investigations were rare, and attended often with "perils from waters and perils "from robbers," in days when communications were very difficult. His fame would be considerable if it rested only on his published works. When he returned to England he entered heartily into the then fashionable Greek revival; and, so far as it was possible to adapt the limited range, not of its teaching, but of its available precedents, to modern practice, he succeeded—a claim which can, I think, be made for no other architect of our time but one, Schinkel of Berlin.

Cockerell excelled as a draughtsman, and was no mean sculptor. He himself modelled much of the ornament which he introduced into his works, and his mouldings are always examples of appropriate profile. These details, and the propriety of their subordination to the whole, in addition to the sense of harmony and proportion which prevails throughout, are objects particularly worthy of study in his works. In London the Sun Fire Office near the Bank of England, and at Oxford the Taylor Museum, are buildings which will preserve his reputation as an architect. His lovable nature—

> Not being less but more than all
> The gentleness he seemed to be—

is still dominant in the remembrance of those who had the privilege to know him, but their number is now greatly reduced. There are, however, not wanting here those who can remember his son, which will help them in imagining what the father must have been. His admirable lectures delivered at the Royal Academy cannot but have produced good results on those who heard them. Both in Cockerell's works and in those of Barry will be found the same qualities of proportion and subordination of ornament which are conspicuous in the works of Sir Christopher Wren and architects of his school.

Nearly contemporary with Cockerell as a Greek explorer was Donaldson, the chief pillar of the Institute at its commencement. There are not many executed buildings by him to which I need draw your attention; but he was an admirable instructor, and some of our present members owe much to his lectures at University College. He, too, has left a long-enduring memory of a kind and sympathising nature; and, while mentioning Donaldson, I cannot but refer to the three Papworths, father and sons, the last of whom has been borne to his grave since we met in this room. The names of John and Wyatt Papworth, devoted supporters and benefactors of the Institute, must always be associated with its Library; and that of the younger of the two with *The Dictionary of Architecture*, for which he was a laborious worker, and the completion of which he, as its editor, happily lived to witness. I shall ask you presently, Colleagues and Gentlemen, to cause to be recorded upon the Minutes of this Meeting our sense of the loss sustained by the death of Wyatt Papworth.

To continue: Gandy Deering, himself a Greek explorer, having been engaged in that service by the Society of Dilettanti, exhibited much skill in his use of Greek elements; but for the most part the Greek revival did not, and could not, succeed, and it helped to bring on the Gothic revival, which also, apparently, is losing its vitality. Some good works, in which Greek detail is not so evident, were, however, produced about the same time, such as Arthur's Club-house, and Basevi's Fitzwilliam Museum at Cambridge. The latter was unfinished when Basevi met his death by a sad accident in Ely Cathedral, and was completed by Cockerell, but the interior has been much altered since those days.

The most remarkable building of this period (if we exclude the Houses of Parliament, the style of which does not lend itself to the comparison) is St. George's Hall, Liverpool. The younger Elmes, who was the architect, did not live to finish the building; and after some delay Cockerell was appointed to complete the work. It appears that Elmes had left full instructions for its completion, but these documents had been lost or mislaid, so that when Cockerell came upon the work he had nothing to guide him but the shell of the building. The entire finishings as executed are by Cockerell's hand; but there can be no doubt that in every respect he loyally carried out Elmes's intentions so far as they could be gathered, and the harmonious result shows that he must have succeeded in practically doing so. The external approaches to the Hall were worked out and finished with great care by Cockerell; these, however, have been since subjected to considerable alteration by others.

PROPORTION IN PREFERENCE TO PICTURESQUENESS.

I have now carried the summary far enough, and shall not particularise any very recent buildings; and for the purpose in view—that is, the comparison of what was done in the seventeenth and eighteenth centuries with the works of the present time—there is no necessity for my doing so. Carried down to the extent it has been, we have found in Sir Charles Barry's and Professor Cockerell's works the same loyalty to the principles of subordination and proportion that prevailed in the days of Inigo Jones and Wren. But, latterly, they seem to have been too much lost sight of. Both the Greek and Gothic revivals have had the effect of bringing into contempt the precedents of Palladio and the great Italian authorities.

Misinterpreted as the spirit of their rules often was, there was some reason in this reaction, for, as far as such rules were supposed to supply the place of genius and thought, they were indeed, fetters instead of helpers. That genius and thought could be replaced by rules of any kind was certainly a mistaken view. Followed as Palladian precedents and principles were, by men like Inigo Jones, Wren, and Chambers, as the language with which their thoughts were to be clothed, they had the same value in architecture that metre has in poetry. The licence which is now too frequently taken with forms and features long recognised as essential, in favour of a treatment of which the final aim is picturesqueness, can hardly ever produce a satisfactory effect from all points of view. I do not hesitate, however, to allow that pleasing effects do, as it were, accidentally occur; and that, in streets where architects have scope allowed them, we do not see monotonous frontages of the class of Gower Street and Wimpole Street—such as were general at the beginning of the century, though even to them some excuse must be granted. Those were hard times, when the country was struggling in a great war for very life, and severe economy in building was then much more insisted upon than it has been of late; and had that restriction not happily been relieved, there could not have been employment for more than about one-tenth of the number who are at present enrolled in the profession. The relaxation of architectural discipline, however, was not a necessary element in the result referred to, for quite sufficient variety, and of a better quality, can be obtained by proper study without ignoring accepted precedents, or neglecting principles of still greater value—namely, proportional relations of contiguous parts, and subordination of details to the purposes for which they serve and to the general effect. My predecessor in this Chair insisted so well and so emphatically on the evil of redundant ornamentation, which has been common of late, that I should only weaken what he so well urged were I to say more than that I heartily agree with every word he uttered on the subject in his last Annual Address to the Institute.

VOTE OF THANKS TO THE PRESIDENT.

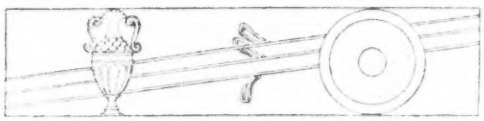
The Very Rev. ROBERT GREGORY, D.D., Dean of St. Paul's.—Gentlemen, I rise with great pleasure to propose a hearty vote of thanks to my good friend, Mr. Penrose, for the most interesting Address he has just delivered. I am sure that all of us, whether we are students, or whether we are ignorant, as I confess myself to be, of the great subject of architecture, must feel equally indebted to your President for the admirable way in which he has placed his points before us. If I were a professed architect, I might venture to criticise some of the things he has said; but as a layman, from an architectural point of view, I do not profess to be in the least qualified to do anything of the kind. I should, indeed, make a very great mistake if I were to attempt to do so. But whilst not criticising what should be done, perhaps I may be allowed to run over some points referred to by Mr. Penrose, and say a few words about them. If every house were obliged to be erected under some one architect, no doubt we should have a far more beautiful city. I must suppose, to judge from their appearance, that the owners of a vast number of buildings erected have no thought whatever of beauty, but that their only idea is how much money can be got out of them. People try to build as cheaply as they can in order to get as large a return as possible. In London, again, we are a good deal handicapped by another consideration—that is, the enormous value which is placed upon land, and the consequent greatly-increased cost of the buildings that are put up. But, possibly, the profession of architecture may come to be a good deal like the profession of which I have the honour to be a member, where there is employment for any number of people, but a livelihood for comparatively few. Another remark made by Mr. Penrose is one, I think, of very serious consideration, and that is the large amount of money which must

be expended on works that do not appear. My experience of architecture during some time past has been, to a considerable extent, connected with drains, and I find that a great many architects do not look after the drains until they have been constructed, and have to be reconstructed; and that then the reconstruction of such very invisible things, but so necessary a portion of the work if our houses are to be healthy, is a very costly operation. One knows that with regard to the older part of London—the City—in which I have the pleasure of living, there has been a complete revision of the question of drains, and consequently enormous cost has been inflicted upon those living in houses where the whole system has had to be reconstructed. There are one or two points mentioned by Mr. Penrose in which I feel a special interest. The inspection of buildings by the London County Council, through persons authorised by them, certainly does not seem to be done in the happiest way possible. I speak with no special knowledge of the subject, yet even the more ignorant among us must feel how great an improvement might be made if the recommendation Mr. Penrose has urged were followed out—that is to say, that experienced architects should be employed for the important task of inspecting the works of their neighbours. Then, with regard to St. Paul's Cathedral, we have been told what an admirable thing it would be if we would only wash the external part of it. Now, I think of all the silly things I have heard for a long time, that is one of the silliest. When I saw the letters in the newspapers I did not even think them worthy of an answer. I remember some twenty years ago the same subject was started. People said if you want to improve the appearance of St. Paul's wash the exterior. The late Dean and myself took the trouble to go and see buildings which had been washed; and I confess that our feeling was that they looked like dirty, streaky bacon! Anything more hideous or unsightly than the effect of the water upon the stone could not be imagined; in fact, anybody who had an eye for colour, or idea of what an ancient building ought to be, would reject at once the proposal to do anything of the kind. And certainly one's past experience, I think, has been justified, and it is gratifying to find that it is entirely in accordance with the views of this assembly. With regard to the interior of the Cathedral—in which, as possibly some of you know, I have taken a deep interest—when I was appointed to a canonry in St. Paul's, some twenty-six years ago, the first thing I thought of doing was to go to Italy and get some idea of what we ought to aim at. I had no knowledge of architecture, or of what should be done; but I thought that if one had any appreciative power, something might be learnt by studying the buildings in Italy which belonged to the same school of architecture with St. Paul's, and sooner or later an opportunity might arise of furthering what was wanted. At the present time we are making efforts, at all events, which I trust the world at large will consent to regard as successful. I think that under the guidance of Mr. Richmond we have been exceedingly successful in the mosaics recently fixed, and, if the public will allow us to go on with the work by helping to provide the necessary funds, we trust that it will be brought to a successful conclusion. But I cannot hope to live to see it. It must be a work, like most great works, of years; a work of effort and a work of genius on the part of him who has its direction; and, at the same time, one of patient perseverance and absolute assent to the proposal of the skilled man whom we employ. As you know, something has been done, and a good deal of money spent. I trust that before very long a good deal more will be done, but it will take at all events a couple of years before we can hope to see the scaffolding entirely removed from the choir; and, until that is done, of course, the work is seen at great disadvantage. As to St. Paul's, seeing the building twice a day for more than twenty years, one necessarily grows to love it, and admire it, and to think that no other place is equal to it. I trust that as long as I live that will be my feeling towards it, and my great desire will be to see it more and more beautified. After all, if I may venture to say so, I am rather glad that the second St. Paul's

was preferred to the first; because, as I look at the earlier design, it seems to me not to be equal to that which was eventually brought to a successful conclusion. Be that, however, as it may, we are thankful that we have so good a building; and we feel that it has been a great scandal to the country that for two hundred years a building, which was designed to be decorated as St. Paul's was, should have been allowed to remain without that decoration for which it so loudly called. Perhaps, however, it is as well that it was reserved to the present day to do the work, because it is possible that the skilled men of our own time are more able to do it in the best way than those of a less recent period might have been; for, although I am disposed to be somewhat of a *laudator temporis acti*, still, I nevertheless feel that the artists of the present day excel in many important respects those who preceded them. With regard to Vanbrugh, an architect with whose works I have some slight acquaintance, whenever I have seen any of his buildings I have felt how true the record of him was:—"Lie "heavy on him, Earth, for he Laid many a heavy load on thee." I think that certainly the weight of his buildings, rather than their beauty, is the thing that strikes one most.

Mr. L. ALMA TADEMA, R.A. [*H.A.*]—Gentlemen, I need hardly say that I feel it a great honour to be called upon to second the vote of thanks proposed so admirably by the Dean of St. Paul's for the Address of the President, whom I have always looked upon as our great Athenian. I confess that I have learnt so much from it that I feel it to be rather presumptuous in me to attempt to speak on the subject of his able discourse. As, however, you desire me to say a few words, you will allow me, I hope, to begin by telling you, as an Honorary Associate, that I consider it a great honour—and no doubt we all do—to bear that title, and to be *en rapport* with so distinguished an Institute as that of the Architects of Britain. There is one point which interests me very much as a member of the Royal Academy. As you know, I am specially interested in the subject of Art education. That education, unhappily, is too little thought of in the great schools and universities, and is not sought after as it should be. A civil engineer, or any such person employed by the country, is never tested as to his knowledge of art or architecture, and subjects of the kind; but, when the time comes, if he is successful, he is popped on to a committee, and judges very freely. It is a pity that some scheme could not be devised by which that idea might be brought to bear upon those who direct the education of the country. It is needless to say that I, for one, applaud with all my heart the proposal to establish a museum of drawings and photographs of executed monuments in order to awaken in the public the desire of studying that art which is the greatest ever produced by mankind—that art to which we belong as painters and sculptors, and which in our modern times, through the division of labour, has been, perhaps, too much chopped up into all sorts of details. One more word I would say—and in giving it voice I know I am expressing the sense of all present—and that is that I always feel a certain pain when I think of the privation we suffer in knowing so little of the great architects to whom we owe those wonderful cathedrals scattered all over the country. They are lost in oblivion, but we love and admire them none the less, I feel quite sure. I have the honour of seconding the vote of thanks to Mr. Penrose.

The PRESIDENT briefly replied in acknowledgment of the compliment.



9, Conduit Street, London, W., 8 *Nov.* 1894.

CHRONICLE.

THE BUDAPEST CONGRESS.

Report of the Institute Delegates.

Messrs. Arthur Cates [*F.*] and John Slater [*F.*], who attended the recent Budapest Congress on behalf of the Institute, report as follows:—

Gentlemen,—We beg leave to report that we attended as your Delegates the Eighth International Congress of Hygiene and Demography recently held at Budapest. The inaugural meeting was held on Sunday, 2nd September, in the large hall of the Municipal Redoute, when the Congress was formally opened by His Imperial and Royal Highness the Archduke Charles Louis, who was accompanied on the platform by Dr. Wekerlé, the Hungarian Prime Minister, M. Hieronymi, the Minister for Internal Affairs, and numerous other civil, military, and ecclesiastical dignitaries. On the same evening the Archduke held a reception in the Royal Palace at Buda, which we attended. The business of the Congress commenced on Monday morning, when the various sections met in the rooms of the Polytechnicum and the adjoining University buildings.

The sectional meetings were held on the Monday, Tuesday, Wednesday, and Friday mornings from 9 o'clock till 2.

Sections IX. and X. were presided over by Professor A. Hauszmann, but on the occasion of the English papers being read on Tuesday and Friday, Mr. Arthur Cates, and on Wednesday when the papers on Hospitals and Theatres were read, Mr. Thomas Blashill, were requested to take the chair, a compliment to the English delegates which was highly appreciated.

We may mention, as more particularly of interest to the members of the Institute, the following papers—

"Les Résultats techniques des Canalisations effectuées, "durant ces dix dernières années, dans les grandes Villes," by Georges Bechmann, of Paris.

"Protection of Residences against Sewer-gas: The "Control of the Escape of Sewer-gas," by Dr. Corfield, of London.

"Die Wahrung der Reinheit der eingeleiteten Luft und "die Assanirung der Luft bei Central Ventilation," by Gustav Wolffhügel, of Göttingen.

"Central Heating of Dwelling Houses and whole Towns," by Sir Douglas Galton, London.

"Chauffage central des Logements dans les Maisons "de rapport et dans les Villes entières," by Emile Trélat, of Paris.

"Gasheizung," by Franz Siemens, of Dresden.

"The Planning of Fever Hospitals," by T. W. Aldwinckle, London; illustrated by drawings of the hospital at Shooter's Hill now being erected under his superintendence.

"Heizung, Ventilation und Beleuchtung der Theater "und Sitzungsraüme," by H. Fischer, Hanover.

"Feuersicherheit der Theater," by F. Fellner, of Vienna; admirably illustrated by the working drawings of the new Deutsches Volkstheater, recently erected by his firm, Fellner & Helmer, in Vienna.

"Combined Dwellings for Artisans now being built in "London," by T. Blashill, London; illustrated by plans, &c., of the Boundary Street Scheme of the London County Council.*

"Sanitary Construction of Dwellings," by Prof. Banister Fletcher.

An attempt was made by Dr. Corfield to carry a series of resolutions on the general methods to be adopted to secure hygienic conditions in cities; but there was found to be so much diversity of opinion on this subject among the delegates that the resolutions were withdrawn, and the whole subject was referred by the General Committee to a small international committee.

Of the genuine hospitality and universal kindness of the reception given to us we cannot speak too highly, but may specially mention the banquet given at the Hôtel National on Wednesday evening to their professional brethren by the Hungarian Society of Engineers and Architects. This banquet was presided over by M. Hieronymi, the Hungarian Minister for Internal Affairs, and the English delegates were honoured by being placed immediately on his right and left.

As regards the city of Budapest, we were much struck with the great works of municipal importance and development which have been carried out chiefly within the last ten years, the magnitude and general character of the buildings, the extent and magnificence of the new streets and boulevards, and the remarkable building activity everywhere apparent. Works not less extensive and important are about to be commenced, among which may be mentioned the construction of two new leading thoroughfares across the city, with two new bridges across the Danube. The general result is to render this beautiful city a worthy object of study by architects, who may also learn important lessons in municipal organisation for the development of a great city.

(*Signed*) Arthur Cates; John Slater.

The Opening Meeting.

The Presidential Address was listened to with much apparent interest, and frequently applauded. The visitors, among whom were a few ladies, included, besides the Dean of St. Paul's, Mr.

* See the Journal, Vol. I. Third Series, p. 658.

H. W. Primrose, C.S.I., the Secretary of Her Majesty's Works and Public Buildings; Mr. Olinthus Donaldson, son of the late Professor; and Mr. W. W. Bruce, of the London County Council. Two gentlemen from Budapest were also present: Herr Eugène de Radisics, Director of the Hungarian Museum of Decorative Arts; and Herr Camille Fittler, Secretary of the Hungarian Society of Engineers and Architects. Mr. Charles Barry, F.S.A., came for the purpose of attending the Meeting, but was obliged to leave on account of indisposition; Mr. Alfred Waterhouse, R.A., was in duty bound to be at Manchester; and Sir Arthur Blomfield, A.R.A., was absent owing to the death of his brother, the Bishop Suffragan of Colchester. Mr. Henry Christian represented his relative, Mr. Ewan Christian; and Mr. J. Macvicar Anderson, the ex-President, was present.

The November Examinations.

A more than usual number of applications to be admitted to the several examinations which ultimately qualify for candidature as Associate have been received. For the Preliminary there are 116 applicants, of whom eight were previously examined and relegated to their studies; and two have not been admitted. For admission to the Intermediate, 55 Probationers have applied, thirteen of whom were examined on a former occasion and relegated to their studies; and five have not been admitted. The applications for admission to the Qualifying Examination, to be held during the week commencing 26th inst., have not yet been considered by the Board of Examiners. There are about 180, more than 50 of which are from gentlemen who have been relegated from previous examinations.

The Kalendar 1894-95.

Monsieur Charles Lucas [*Hon. Corr. M.*], a member of the Société Centrale des Architectes Français, writing from Paris on the 1st inst., is very complimentary to his English colleagues, and the compliments he makes on the subject of their latest KALENDAR are the more agreeable because no one better than M. Lucas understands the working of a professional body, whether in France or England; and no one in France knows more about the Royal Institute of British Architects than he. Referring to that portion of the KALENDAR which contains the Registers of members and others, his words are: Je ne veux pas tarder à vous dire la grande satisfaction avec laquelle j'ai constaté l'augmentation régulièrement constante du nombre des *Associates*, des *Students*, et des *Probationers*, ces véritables réserves de l'Institut et lui devant constituer les *Fellows* de l'avenir, en même qu'assurer à tout le monde britannique une pépinière d'architectes de valeur. Les *Allied Societies*, par les liens qui les unissent à l'Institut, ne sauraient non plus laisser indifférents tous ceux qui ont quelque souci d'une forte organisation de la profession d'architecte, en quelque pays que ce soit.

The late Léon Palustre.

The distinguished Frenchman Léon Palustre, archæologist, antiquary, and man of letters, died, it is regretfully recorded, on the 25th ult., in his fifty-seventh year. His great work, *La Renaissance en France*, it will be recollected, furnished material for the interesting notes on Architects and Master-workmen contributed to the last volume of the JOURNAL [pp. 511, 535] by Mr. Phené Spiers. The following notice is translated from a communication courteously made by Monsieur Charles Lucas:—

An antiquary of the widest views, a writer of a most frank spirit, a Frenchman deeply enamoured of the artistic glories of his country—such was Léon Palustre, and as such his memory will be ever cherished by his brother historians and archæologists.

Born at Saivre (Deux-Sèvres), 4th February 1838, he was attracted by the charms of fair Touraine, and fixed his residence there after his marriage. From an early period he devoted himself to the study of literature, art, and law; and, after extensive travels in France and on the borders of the Mediterranean, he made his first appearance as an author by the publication of a work entitled *De Paris à Sybaris*, the result of artistic and literary studies relating to Rome and Italy. Later followed the beautiful *Album* illustrative of the marvels of the Tours Exhibition of 1884; a re-issue of the *Mystère d'Adam*, a legend of the thirteenth century; and of the *Triomphe d'Anne de Montmorency, Connétable de France*, a work of the sixteenth century. He was the author of a *Vie de Guillaume d'Aquitaine*; and, in collaboration with Mgr. le Chanoine Barbier de Montault, produced the *Mélanges d'Art et d'Archéologie* and *Le Trésor de la Cathédrale de Trèves*. Numerous articles from his pen appeared in the *Bulletin Monumental* (the organ of the Société Française d'Archéologie); the *Gazette des Beaux-Arts*, in which his latest studies were devoted to the Renaissance and to Germain Pilon; and in *La France artistique et monumentale*. In the last-named were published his monographs on the Châteaux de Blois, d'Amboise, and de Chambord; and one on the Château de Chenonceaux will shortly appear in the same journal.

But his masterpiece—to which for more than ten years he devoted all his evenings, and which, unhappily, he did not live to complete—is *La Renaissance en France*, an admirable publication treating of the finest monuments belonging to one of the most charming and perhaps the most fascinating of the great epochs of art. To this work was issued as a handbook his *Histoire de l'Architecture de la Renaissance en France*. The

name of Léon Palustre will remain inseparably connected with the artistic beauties of the French Renaissance, which he loved with enthusiastic but discriminating devotion, and with a taste as pure as his learning was profound.

Léon Palustre, in 1874, succeeded Arcisse de Caumont as Director of the Société Française d'Archéologie; and the Count A. de Marsy, who since 1884 has occupied that distinguished post, on the 27th ult., at the Cemetery of Saint-Symphorien of Tours, expressed in feeling terms the regrets of all who knew Palustre.

The late Charles Herbert Cooper [*A.*].

Mr. Walter E. Hewitt [*A.*] has forwarded the following obituary notice of an Associate who passed the Examination in Architecture in March 1889:—

By the death of Mr. C. H. Cooper from typhoid fever, which took place on the 7th ult. at the early age of thirty-two years, the Institute loses a young architect of much promise. Mr. Cooper's early education was received at Kensington School; thence he entered the Architectural division of the Science and Art Department, and was afterwards articled to Mr. Rowland Plumbe [*F.*]. For the past two years he had been in practice for himself, his principal work being the rebuilding of warehouse premises at 61 and 62, Friday Street, E.C. Mr. Cooper was of a very gentle and retiring disposition, and his merits were chiefly known among his more intimate friends, who greatly mourn his loss, and who mustered in strong force in Willesden Old Parish Church, where the interment took place. He had for some time been engaged in collecting and editing particulars of the burial-places of distinguished English men and women, a task which was approaching completion at the time of his death.

A Hint to Competition Assessors.

The first Suggestion, sanctioned by the Institute, for the conduct of Competitions, is that promoters should, as their first step, appoint one or more professional assessors, whose appointment should be published in the original advertisements and instructions, and whose decision should govern the selection of the designs. But in more than one recent competition the appointment of an assessor has been an afterthought, or at least delayed until the designs are on the point of being received by the promoters. The result has often been that some clauses in the instructions issued to competitors and in the conditions under which they were invited to compete have not met with the entire approval of the assessor thus tardily appointed, or have been condemned by him as injudicious or unfair. Under such circumstances an assessor might very well stipulate, prior to accepting the appointment, that his name should be published with the statement appended (1) that his duty was restricted to the selection of the best designs submitted in accordance with instructions and under conditions of which he had no official knowledge prior to his appointment as assessor; and (2) that as his advice, which is alone sought, may not be finally adopted by the promoters, his award shall be published with their report containing the final decision they arrive at. By reserving such rights, an assessor need not fear being made responsible for results which may be opposed to the terms of his award.

Additions to the Library.

Copies of a valuable text-book for students, Mr. Charles F. Mitchell's *Building Construction* [London: B. T. Batsford], have been added to the Reference and Loan Departments of the Library. Mr. Mitchell, whose elementary work on the same subject is so familiar to students and others, having run through various editions, has compiled his material for the present volume from experience gained by personal observation of the methods of construction, not only in Great Britain, but also in France, Germany, Switzerland, Norway, and the United States. The particular object of Mr. Mitchell in the present work is to meet the requirements of the examinations conducted by the Science and Art Department, the Institute, and other examining bodies—an object which he is particularly well qualified to fulfil in view of the fact that the published lists of the Science and Art Department credit him with having prepared the greatest number of successful Honours Students during the past seven years.

Early London Theatres, by Mr. T. Fairman Ordish [London: Elliot Stock], is the most interesting, and it promises to be the most popular, volume yet published in the Camden Library series. Mr. Ordish has been singularly fortunate in selecting this subject for historical treatment, for, curiously enough, he has had no predecessor who has dealt with it adequately. As further reference will be made in a subsequent issue of the *Journal* to this book, it is only necessary now to congratulate Mr. Ordish upon having taken excellent advantage of a delightful and rare opportunity.

Professor Henry Adams has presented his book on *The Practical Designing of Structural Ironwork* [London: E. & F. N. Spon]. Professor Adams has, at intervals during the last ten years, issued in pamphlet form much of the matter which appears in his volume for the use of students in the Engineering Department of the City of London College. To have this matter, in view of its great practical utility, brought into its present convenient shape makes it an invaluable book of reference, scarcely less so for architects than engineers.

Mr. Arthur Cates, one of the Delegates of the Council of the Royal Institute at the Eighth International Congress of Hygiene and Demo-

graphy, has presented the *Journal* of the Congress which was issued daily for the convenience and guidance of members during the sitting, each part being duplicated in four languages, English, French, German, and Magyar. Mr. Cates has also presented the *Order of the Lectures*, *List of Members*, and a copy of the *Magyar Hirlap*.

M. Ch. Buls is both the author and donor of the following pamphlets: *Le Monténégro*, being a lecture delivered before the Belgian Alpine Club (Brussels: F. Hayez); *La Peinture Allemande*, an article originally contributed to *La Revue de Belgique* on German painting at the Munich Exhibition [Brussels: Parent et Fils]; *Les Anciennes Gildes et Corporations*, a lecture delivered before L'Union Syndicale [Brussels: Bruylant-Christophe & Co.]; *La Thessalie*, a lecture delivered before the *Société royale belge de Géographie* [Brussels: Jules Vanderauwera]; *Fêtes Nationales de* 1890, an oration delivered by the author on the occasion of the inauguration of the Square du Petit-Sablon on the 20th July 1890, which was consecrated to the glory of the sixteenth century; *Palais du Peuple*, a report by the President of the Commission (M. Buls) organised to consider the erection of a People's Palace, subsequently established in the Parc du Cinquantenaire [Brussels: A. Lesigne]. Mr. John Hebb [*F.*] has presented *Municipal Pawnbroking*, by Mr. W. H. Dickinson, Deputy Chairman of the London County Council; and Mr. T. J. Willson, his reprint from the *Archæological Journal* on *The Tomb of St. Hugh at Lincoln*.

Helmingham Hall.

On a former occasion some reference [Vol. I. pp. 25, 59, and 276] was made to photographs of Helmingham Hall by Mr. William Vick, of London Road, Ipswich. Until the Architectural Association visited it, by the kind permission of its owner, in the summer of last year, the Hall was little known to architects—or, at least, little talked about by them. Mr. Vick has recently presented a photograph of the exterior from the south-east, and also one of Queen Elizabeth's bedroom—a charming interior.

REVIEWS. XV.

(42.)

THE PALERMO CONGRESS, 1892.

Atti del Congresso degli Ingegneri e degli Architetti in Palmero 1892. *VII. Nazionale—I. Internazionale in Italia. Parte I. Memorie Preliminari; Parte II. Resoconti. Palermo* [*Tipografia editrice Tempo D. Vena* 1893.] *Memorie Preliminari allegato alla sezione V. tema* 4o. *Venezia* 1889. [*Stabilemento Tipo-litografico dei Fratelli Visentini Editori.*]

These three volumes contain a detailed account of the subjects discussed at the International Congress of Engineers and Architects which took place at Palermo in 1892. They deal with almost every branch of these professions, and are arranged on very systematic lines.

One volume contains all the papers read on the several subjects chosen for consideration. The reports of the discussions relating to them are collected in another; and the third consists of a long and comprehensive treatise by the engineers Signori Romano and Fiendra, propounding their scheme for the construction of a canal between Spezzia and Venice.

Representatives of thirty-one Colleges, Academies, Institutes, and Societies attended this Congress, the Royal Institute of British Architects being among the number. Fifteen other Bodies recorded their formal adhesion to it. The Congress was divided into eight sections, architecture being placed second, and the sittings were held at the Palace of the Royal University. In the Architectural Section, at the first sitting, the Congress nominated Mr. T. H. Watson [*F.*] as President, Signor Melchiorre Minutilla as Vice-President, and Signor Angelo Coppola and Signor Achille Patricolo as Joint Secretaries. The compliment paid to the Institute in the appointment of its representative as President of the section was acknowledged at the second sitting. Papers were read and discussed by the architects present at each of the seven sittings, and excursions were made to places of architectural interest in Palermo and the neighbourhood on alternate days. During the Congress, which lasted three weeks, there were many public receptions and much private hospitality on the part of the numerous artistic and social clubs of Palermo.

Most of the remains of Greek, Saracenic, and Norman architecture in Sicily were mapped out and visited under the guidance of Professor Cav. Giuseppe Patricolo, Director of the Government Department for the Preservation of Monuments in Sicily. Excavations of the ancient cities have been carried on for many years, and a considerable sum is annually voted for their prosecution. The excavations are well protected by military pensioners, and are all within a moderate carriage drive of the railway stations. The museums at Naples and Palermo have been enriched by several important finds.

(43.)

THE HOWARD LECTURES 1893.

On the Development and Transmission of Power from Central Stations; being the Howard Lectures delivered at the Society of Arts in 1893 *(Amplified). By William Cawthorne Unwin, F.R.S., B.Sc., M.Inst.C.E.* 8o. *Lond. & New York. Price* 10*s. net.* [*Messrs. Longmans, Green, & Co., Paternoster Row, London.*]

In this work the learned author expands into book-form the substance of a course of scientific lectures delivered by him last year before the Society of Arts: and those of our members who like to know a little of everything that is collateral

to their profession will find in the volume a great deal of interesting information most intelligently set forth. The understanding in some measure of what "energy" is, and the discovery of what can be done with it when laid hold of, must be regarded as perhaps the most characteristic of the practical enterprises of our adventurous age; and Professor Unwin confines himself strictly to the practical view of the question, not aiming at what may claim to be new, but explaining what is demonstrably and suggestively true. The scope of the investigation may perhaps be put thus:—Whether it be steam power, water power, compressed air power, gas power, or electrical power, let it be concentrated at a convenient station and distributed by convenient appliances; economy is thus obviously secured, and ingenuity has only to concern itself further with ways and means.

There are advanced people in these days who are bold enough to tell us that the time may not be so very far off when the ratepayer under a modest municipality may obtain supplies of no one knows how many things by the turning on promptly of a variety of taps in his private room; but our author does not trouble his head, or ours, with such merely pleasurable speculations; he goes straight at his mark—which he calls "socialism "in the field of mechanical engineering"—as at the present day within the range of practical endeavour, and looking at "mechanical energy" or "motive power" in no other light than "as a "commodity, producible, distributable, saleable." As a peculiarly intelligible illustration of what he means, and without going away from home, he cites the case of the establishment of a public supply of hydraulic power in London; and it may surprise some of us to be told that "for the single "purpose of working lifts and hoisting-machinery "it has already proved remunerative (in 1892) to "extend through the streets of London a system "of hydraulic mains nearly sixty miles in length," "supplying 1,676 customers, and at the rate of 6,600,000 gallons of water per week. Thus is the one simple form of "mechanical energy or motive "power" which consists in the weight of water most potently utilised—centrally stored, widely distributed, and profitably sold—for a single purpose; and of course there are many other equally serviceable forms of the same universal force of nature which are only waiting upon the march of enterprise to be more or less simply utilised for many other purposes.

Taking this unaffected and thoroughly business-like view of the question, Professor Unwin proceeds to deal in most interesting detail with steam power, water power, and others, in respect of initiation and central supply; and still more minutely with the problems of transmission and distribution by all the various means already in use; ending, still unaffectedly, with the mysterious agencies of electricity and "the utilisation "of Niagara Falls." A treatise of this kind is not only full of information for the explorer in applied science on the highest ground, but it affords to the student of practical construction, of whatever kind, an opportunity for obtaining stimulating mental exercise in one of the most valuable forms.

ROBERT KERR.

(44.)

A NORTHUMBERLAND HOUSE.

Denton Hall and its Associations. By William Weaver Tomlinson. 4to. London, 1894. [*Walter Scott, Ltd., London.*] *Edition limited to* 250 *Numbered Copies, of which* 100 *are for private circulation.*

Denton Hall, Northumberland (situated three miles to the west of Newcastle-on-Tyne), derives what interest it possesses from being one of the earliest and one of the most picturesque examples, excellently preserved, of Jacobean architecture in the county; from its being, at one time, a periodical residence of Mrs. Elizabeth Montagu, of literary renown; from the antiquarian interest of its neighbourhood (remains of the Roman Wall and Vallum still exist in its immediate vicinity, and within its grounds there has been unearthed a course of masonry belonging to an ancient chapel of the Priors of Tynemouth); and, finally, from its being the domicile of a fairly well authenticated ghost, which may be commended to the attention of the Psychical Research Society or Dr. Lee.

Architecture, essentially domestic in character, did not make its appearance outside the walled towns of the English border counties, which were subjected to frequent raids from their Scottish neighbours, until a later date than in southern parts of the country, very rarely, indeed, until the Act of Union between England and Scotland had proved practicable and binding. Previous to that time buildings outside the towns were, for the most part, designed rather for providing effective protection against Border reivers than for comfort. Denton Hall was one of the earliest unfortified manor houses of the county built before the Union, and although its general character is Jacobean, its erection was not uninfluenced by the sterner form of architecture which it succeeded. An instance of this is exhibited in its principal staircase, which is of stone and rather narrow. Thanks to the present owner and occupant (Mr. W. A. I'Anson), who has, at considerable expense, relieved the building from "improve-"ments" effected by earlier proprietors, Denton Hall stands now pretty much the same as when it was built by Anthony Errington in 1622. It still, however, remains for Mr. I'Anson to restore the two dormer windows removed from the west front of the house, the absence of which leaves the building, in that aspect, with an incomplete appearance.

Denton has passed through the hands of various proprietors, all of considerable local importance, and one whose reputation was far-reaching—Mrs. Montagu, the most distinguished emancipated

woman, holder of the most brilliant *salon* of her time; the friend of Dr. Johnson, Sir Joshua Reynolds, Garrick; the author of *Dialogues of the Dead* (published in 1760), and an *Essay on Shakespeare compared with the French and Greek Dramatic Poets* (1769), provoked by Voltaire's memorable attack on Shakespeare. Mrs. Montagu's residence at Denton is accounted for by the fact that her husband, the Hon. Edward Montagu (a grandson of the first Earl of Sandwich), inherited the property, with its adjacent lucrative coal-mines, in 1758. From that time until a few years before her death Mrs. Montagu made, with few exceptions, yearly excursions to Denton, where she entertained many of her distinguished contemporaries; and on the death of her husband in 1775, she displayed a great natural aptitude for business affairs in the successful management of the Denton estate.

In a work which is only likely to possess a limited and local appeal, Mr. Tomlinson has discharged his undertaking conscientiously, with characteristic thoroughness, and with the untiring diligence in research which distinguishes his *Comprehensive Guide to Northumberland* and other works. The publishers are to be congratulated on the admirable appearance of the volume, which is plentifully and excellently illustrated by Mr. T. Eyre Macklin. Mr. W. H. Knowles [*F.*], of Newcastle, has supplied plans, to scale, of the ground and first floors of the Hall. RUDOLF DIRCKS.

(45.)

IRON, STEEL, AND TIMBER.

Engineering Construction in Iron, Steel, and Timber. By William Henry Warren, Whitworth Scholar, M.Inst.C.E., M.Am.Soc.C.E.; Challis Professor of Civil and Mechanical Engineering, University of Sydney. 8o. *Lond.* 1894. *Price* 16s. [*Messrs. Longmans, Green, & Co., Paternoster Row.*]

So many excellent and comprehensive treatises devoted exclusively to the mathematics of engineering construction are already in existence, that it seems needless to add to their number. It is not so, however, with books such as this one of Prof. Warren's, in which the mathematical treatment, while adequate in itself, is accompanied — not merely supplemented—by examples such as occur in actual practice, the working out of which in detail cannot but assist the student to a better understanding of the mechanical principles involved.

The first chapter of this book is devoted to the mechanical tests applied to materials of construction, more especially with reference to the determination of their elastic properties. In discussing working limits of stress and factors of safety, the results are summarised of Prof. Bauschinger's experiments (supplementing Wöhler's and Spangenburg's of earlier date) on the effect of repeated and alternate stress; the empirical formulas of Weyrauch, Launhardt, and others, designed to express these results, being given; also modified forms of the same as used generally in the United States, and in France by Government regulation, to determine working limits under various conditions of stress.

In the succeeding chapter, on the strength and elasticity of timber, much valuable information is furnished by the tabulation of the most recent experimental results; those of Mr. Kirkaldy and Prof. Lanza, on the crushing strength of pine and oak timber, being especially useful, from having been made on pieces of sufficient size to represent actual conditions of use. The results are also given of similar experiments made at Watertown Arsenal (United States). Very interesting are the results of original experiments made by the author on various Australian timbers, including ironbark, the gum timbers of New South Wales, and jarrah from Western Australia. The values of the modulus of elasticity for these timbers differ but little from the average of those found for pine and oak, but their ultimate resistances to crushing and bending are from two and a half to three times as great.

Examples of timber bridges of ten feet to thirty feet span, for road and railway purposes, are given in Chapter VI. These are illustrated in detail, and the strength and scantling of each part calculated, the resistances of bolted and keyed connections being also investigated. The types chosen are most suitable for countries where timber is plentiful, and are chiefly interesting to English readers as being examples of good design for temporary structures, for which timber still remains the most suitable material, though for such purposes a larger factor of safety may reasonably be taken than is necessary for permanent structures. In later chapters the design of tension joints for large timbers and of lofty timber trestles is exemplified.

Chapter III., commencing with a statement of the mechanical conditions of equilibrium of a structure, follows with an explanation of "Culman's "principle," the foundation of grapho-statics. Bow's notation for reciprocal figures, the invention of which has done much to extend the usefulness of Maxwell's discovery, is fully described, and is well exemplified in this chapter; also in Chapter VII. and the two following, where it is applied to various forms of framed roof trusses, braced girders with parallel flanges, also polygonal and bowstring girders. A number of clearly drawn diagrams are printed with the text, and though in some cases suffering from the small scale inevitable to this position, are more easy of reference than when collected in plates, frequently many times folded, at the end of the volume.

Dr. Ritter's method of moments for determining stresses in braced structures is described, and the author advises its use as a check upon the purely graphic method, it being only necessary for this purpose to apply it to a few members of the structure in question.

The examples given of roof-truss calculation are the more useful that a clear statement is made in each case of the data necessary to determine the forces acting at each loaded joint, due to fixed and snow load and wind pressure. With regard to wind pressure on roofs of large size, or in exposed positions, the different cases should always be examined of wind blowing from either side, the truss being fixed at one end and on rollers at the other, or fixed at each end, as it will be found that the maximum stresses on the various members do not usually occur for one case only.

Similarly useful examples of single and multiple triangulated girders are given, though, in regard to the latter, the not strictly accurate assumption is made that the systems of triangulation may be considered separately, acting only under the loads applied at their own vertices. The author does not allude to the subject of secondary strains, though the importance of considering these in girders of large size is now recognised.

In Chapter IV. the relation between bending moments and shearing forces, and their algebraic and graphic representation, are very clearly explained for the various cases of distributed and concentrated loads on cantilevers and beams supported at two points. This is followed by a chapter on the distribution of longitudinal and shearing stresses in beams of various sections, with examples of the determination of moment of inertia and resistance for cast-iron flanged beams, for rolled angle, tee and girder sections, also for built-up riveted girder sections. Useful tables are given for the modulus of resistance, $\frac{I}{y}$ inch units, of the different sections of steel rolled joists now made in England and the United States. To use these tables it is only necessary to multiply the modulus therein given for any section of joist by two-thirds the chosen limit of stress in tons per square inch, to obtain the value of Wl, which is the product of the safe uniformly distributed load, also in tons, and the span in feet.

The more complex subject of deflection is considered in the next chapter, and is extended to the cases of beams fixed at one or both ends. Following this is a chapter on continuous beams, the use of which, both in bridges and for building purposes, is illustrated by worked-out examples. For such beams it should be well borne in mind that the results of calculation in any one case are true only so long as the supports remain at the level assumed, and are entirely vitiated by the slightest want of accuracy or subsequent alteration in that respect.

A valuable chapter on long columns and struts commences with the time-honoured demonstration of Euler's well-known, though somewhat useless, formula for the breaking strength of an elastic column of uniform section loaded centrally—an ideal condition seldom attained in practice. This is followed by an abbreviated demonstration of Mr. Claxton Fuller's formula, founded upon the assumption of initial eccentricity of loading, and of Rankine's generalisation of Gordon's formula, still in shape the foundation of the modern empirical formula designed to express the result of recent experiments. Tables are given of the results obtained from experiments, made at the Watertown Arsenal, on full-sized struts suitable for bridge girders and also for building purposes, of various riveted sections. Some of these struts were of the well-known Phœnix column section, formed of segmental channel bars, and others built up from plates, angles, and channel bars—in some cases lattice bracing taking the place of connecting web plates. These struts were from 10 feet to 25 feet long and 6 inches to 12 inches across, the dimensions being comparable with those occurring in actual practice. Following the tables are formulas devised by Mr. Cooper, a well-known American engineer, to represent these and other similar experimental results.

In a chapter on joints and connections examples are given of the design of riveted joints, the relation between shearing and bearing resistances of the rivets, and the tensile or compressive resistance of the plates or bars joined being fully explained. The author wisely advocates the drilling of holes for riveted work, especially in steel; he also recommends the use of double covers where possible, these having the obvious advantage of enabling some at least of the rivets in the joint to act in double shear, though the stress on each section is not necessarily equal. Attention is properly drawn to the importance of so designing the junctions of bracing bars to booms in a framed girder or truss that the axes of the several members connected intersect at one point, and that the group of rivets forming the connection may be as nearly as possible symmetrical to these axes, in order to obtain approximately equal distribution of stress upon the rivets. The proportions of eye bars and pins are briefly considered, and some illustrations follow of typical connections for iron roofwork: these are, however, too small in scale and too little explained to be of much use to the student; the more complete working out of a single moderate-sized roof truss example would have been more instructive.

A brief description of some of the different forms of metal decking used for bridge floors and building purposes opens a chapter on the distribution of fixed and moving loads on road and railway bridges. This is illustrated by fully-worked-out examples of the design in detail of plate girders for such purposes. The influence of American practice in Professor Warren's teaching is obvious in the frequency of reference to standard rules and specifications in use in the United States. There is nothing to complain about in this, however, when the systematic manner in which these rules

are worked out is considered. An example, frankly American in type, is described and illustrated of a pin-connected steel truss bridge of 180 feet span for a single line of rails. The details are decidedly good of their kind, though different enough from those seen in English practice. Calculations for small details and connections are not given in this case, but the stresses and scantlings for the different members are tabulated in full.

The effect of wind pressure on girder bridges and on skeleton structures, such as lofty piers and towers, is considered in the two following chapters, and the stresses due to it, in their lateral and transverse bracing, examined in some detail.

Another well-worked-out example of practical design is that of a continuous girder road bridge of three unequal spans, illustrating the application of the theoretical investigations of Chapter XI. This is followed by a chapter on swing bridges, briefly describing the different methods adopted for supporting their weight during turning, viz. by live roller rings, central pivots fixed or supported by hydraulic power, and combinations of these. A design for such a bridge, with two 60-feet openings, is given, illustrated by four plates; calculations are not furnished, but the details are very fully shown, and there are some good points to be noticed, especially in the method adopted for securing equal distribution of weight on the live ring.

The theory of elastic arches is somewhat cursorily treated in a semi-graphical manner for the cases of the arch hinged at the springings and continuous at the crown, and the arch fixed at the springings. It must be said, however, that for the student approaching this difficult subject for the first time, a fuller and, to commence with, more elementary treatment would have been desirable. The much simpler case of the three-hinged arch, pivoted at springings and centre, is more fully described, and a summary of the calculations for a road bridge carried out on that principle is given. This form of arch possesses the great advantage that temperature strains are eliminated, since the crown of the arch is free to rise or fall with change of temperature. There is also no uncertainty about the determination of the actual stresses occurring in the arch, as they can be found by statical methods only, no assumption as to the elasticity of the material being required. Striking instances of the application of this form of construction occurred in the great roofs of the Paris and Chicago Exhibitions.

Suspension bridges are the last subject treated by Professor Warren, and his book concludes with a summary of the calculations for the North Sydney suspension of 500 feet span, designed by the author and Mr. Coyle. This bridge consists of steel wire cables suspended from masonry towers, and supporting steel lattice cross girders which carry longitudinal timber bearers and a plank roadway. The details, shown by three plates, furnish a good example of modern suspension bridge design.

In a future publication the author proposes to deal with engineering construction in brickwork, masonry, and concrete; the subject of foundations, very briefly mentioned in the present book, will there be more extensively discussed. It only remains to say that the many tables and illustrations in this book are clearly printed and well executed, and that altogether it is a valuable and useful addition to the literature of engineering and building construction. HENRY REILLY.

(46.)

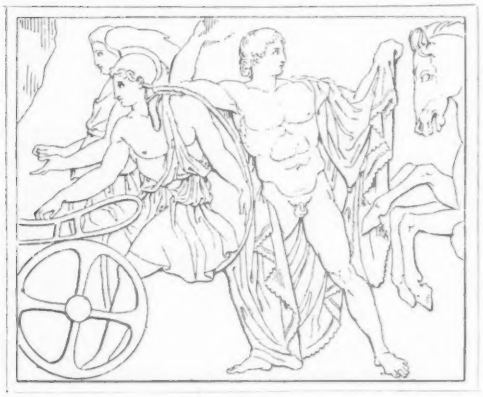
MUSEUM OF MATERIALS IN VIENNA.

Führer durch die Baumaterial-Sammlung des K. K. naturhistorischen Hofmuseums in Wien.

This is a guide to the collection of building materials in the Imperial and Royal Natural History Museum at Vienna. Dr. Aristides Brezina tells in his preface how this large and comprehensive collection was first started. Herr Felix Karrer had delivered a lecture on the building stones of Vienna before the Scientific Club; and the Union Building Society presented to the Imperial and Royal Collection of Minerals a number of specimens in illustration of the above lecture. The large new museum was at this time being built, and Herr Karrer suggested adding to the nucleus which was to be transferred from the Hofburg a further and more complete collection of the building materials used in Vienna. The idea was very warmly supported by the Director, Hofrath von Hochstetter, and others, and in a short time a large number of specimens had been brought together. The success of this attempt encouraged renewed efforts, and further collections were made in various cities of the empire and in Hungary and other countries. In the space of thirteen years 7,000 specimens were collected, which are second to none in completeness, beauty, and excellence of arrangement. A further acquisition was their own collection of 2,000 specimens presented by the Austrian Society of Engineers and Architects.

The specimens, rough or wrought, are cut for convenience' sake to a uniform size of $12 \times 8 \times 3$ cm. The collection is arranged geographically, and classified according to technical use in ten groups; further subdivisions are petrographical and geological. The labels are of two colours: the green give the usual or commercial name; and the yellow, the special use of the stone. In the section on Vienna notes are added, telling in which buildings many of the specimens may be found. There are also forty phototypes of the principal buildings in various towns, the materials being mentioned in each case.

A list is also given of books of reference bearing on the subject. B. A. CHARLES.



THE A. A. CURRICULUM.

By FREDERIC FARROW [*F.*], Lecturer at the Architectural Association.*

Lectures, classes, and studio are now commencing for the fourth winter's work of the Architectural Association, as a teaching body for architectural students, since the remodelling of its educational methods to fit the standard required by the Progressive Examinations of the Institute; and it is therefore a fitting opportunity for members to consider the advantages offered by the Architectural Association for the education of their pupils, improvers, and assistants.

The curriculum of the Architectural Association has been built upon the foundation of the programme of the Institute Examinations, and its maintenance in its original form depends largely upon the support it meets from those who are desirous of studying for the examinations. During the past session the senior classes, which were especially suitable for those students preparing for the "Final" Examinations, met with small success, from the postponement of the first of them and the extension of the Qualifying Examination to the current month. Hence the Committee of the Association have dropped some of their senior classes for the present, though still hoping to re-open them in another year's time when sufficient Students R.I.B.A. may be expected.

In the curriculum the instruction is divided between studio and lectures, which latter include classes. Either studio or lectures can be taken separately, or, if the student desires, they may be taken concurrently. The subjects taught in the studio or by lectures are alike divided in the current session into three divisions and certain extra subjects, with the view of so distributing a student's work that everything taught may be steadily and thoroughly learnt without cramming or undue pressure. The *Probationer* of the Institute who desires to prepare for the Intermediate Examination should take up in successive years the work of Divisions I. and II.; and in one of those years the "extra "subject" plane and solid geometry; in the other mensuration, and surveying and levelling. In the studio work of Division I. he will be taught geometrical drawing of ancient examples, free-hand drawing, drawing of examples of elementary construction, plane geometry applied to actual work, and perspective. In Division II. the studio continues the work of Division I. to a higher stage, and includes also solid geometry. Thus, in the studio, the Probationer has the opportunity of preparing his "Testimonies of Study" for the examination. By the lectures and classes in Division I. the Probationer is instructed in the Orders of Greek and Roman architecture and the several varieties of classic ornament, the nature of ordinary building materials and the elementary principles of construction, the rudiments of perspective, and elementary physics; whilst in Division II. he learns about English architecture, materials, the strength of materials, stresses and strains.

The inclusive fees are £5. 5*s.* for a year's instruction in the studio in any division, and £5. 5*s.* for a year's course of lectures and classes, including one extra subject; or, if a student so wishes, he can take up a single course of lectures in any one subject at a special fee.

After passing his Intermediate Examination the Student can proceed with Division III. of the curriculum, to prepare for the Final Examination, and, as intimated above, this will be followed by a Division IV. when sufficient students are ready to justify the re-establishment of the advanced courses. During the past session the work of the lower divisions has been very successful, forty-nine students having attended the lectures in Division I., and thirty-one those in Division II., whilst forty-eight students joined the studio in Divisions I. and II.

FREDERIC FARROW.

* See THE R.I.B.A. KALENDAR 1894–95, pp. 151–56, and the Architectural Association's *Brown Book*.

SOME OF LANDOR'S WIT.

The readers of the JOURNAL may possibly find something to interest them in the opinions concerning architecture which were held by so distinguished a man of letters as Walter Savage Landor. The first passage, in point of date, in which he expressed his views on the subject was originally printed as a note on an allusion to the Pirœus, in the imaginary conversation between Pericles and Sophocles.* In this note Landor refers at some length to the architecture of Greece and Rome. He remarks that all the public works of London and of Paris would not form a

* *Imaginary Conversations*, by W. S. Landor, 6 vols., 1891. *The Longer Prose Works of W. S. Landor*, 2 vols. Both published by Messrs. Dent & Co., London, 1892–93.

third of the Piræus. Athens, he says, a city not much larger than Liverpool or Bristol, with a population which might have lost itself in Syracuse, produced within the space of two centuries a greater number of exquisite models in architecture than the rest of the universe in six thousand years. Athenian architecture is also referred to in "Pericles and Aspasia," where to Ictinus, the architect of the Hecatompedon, is attributed the suggestion that "what we call the Doric column is "in fact Egyptian." Ictinus, quoted by Aspasia, adds: "Our noblest specimens of it are but "reduced and petty imitations of those antient "and indestructible supporters to the Temples of "Thebes, of Memphis, and of Tentyra." In the note on the Piræus, Landor also has something to say about Roman architecture. The Romans, he thinks, did less in their cities than in their colonies. The greatest of their works was the wall in Britain; the most majestic and solid, their bridge across the Danube. But they excelled the Athenians in their theatres. "Those at "Athens were worthy of Pollio and Seneca; those "at Rome of Æschylus and Sophocles." Lucullus, he maintains, was the first Roman who had any idea of magnificence in architecture. In another conversation, it may be remembered, an account is given of the villa of Lucullus. Julius Cæsar, Landor says, left nothing memorable in Rome but Pompey's statue. Augustus did something for the adornment of the city, but he was no Pericles. Nero, however, erected a palace before which all the splendours of Pericles fade away. This was the famous Golden House in which were placed the masterpieces of Phidias and Praxiteles, Zeuxis and Apelles. Landor, like the Italian scholar, Signor Lanciani, always held that the character of Nero has been unjustly maligned. "The Conflagration of Rome I believe to have arisen from "the same cause as the Conflagration of London, "the necessity of purifying the city after an enemical disease, and of leaving no narrow streets "in the centre for its recurrence." After the Flavian emperors, Landor says, architecture sank for ages; and then follow some striking observations on another order, that introduced into Europe by the Moors: "The cathedrals of Spain "are the most exquisite models of it; and illuminated books, which the Arabs, Turks, and Persians still prize highly, gave, I imagine, those "ideas on which French, German, and English "raised so many noble edifices, correcting by "them the heavier and more confused masses of "Italy." Elsewhere one of Landor's interlocutors exclaims: "How flourishing was Spain under the "Saracens during great part of a millennium! "What pleasure and politeness, what chivalry and "poetry, what arts and sciences in her cities! "What architecture within her walls and round "about; what bridges, what fountains, what irrigation!" Of Italian architecture he says that the towns are indeed magnificent; but in the churches there is always something of misapplied paint and importunate gilding. "A couple of pepper-boxes "are mounted on St. Peter's, which also exhibits "the absurdity of two clocks on its front."

Concerning architecture in England, Landor, writing in 1826, said: "In London with St. Paul's "and St. Stephen's before us, in Bath with Queen's "Square, the Crescent and the Circus (to which "last nothing in Rome or in the world is equal), "we build cottages like castles, and palaces like "cottages." In later years he objected to the revival of the Elizabethan style. "Condemned "by nature to perennial twilight, you wainscot "your apartments with the darkest oak, and im-"panel it in your ceilings; your windows are "divided and traversed by thick stonework; and "the panes of glass, extremely small, are sometimes "made darker by green and purple, and are held "together by an almost equal quantity of lead." No less did he dislike the wholesale imitation of classic models in domestic architecture. "Some "of us would be Grecian in our houses, forgetting "that the Greeks made a wide difference between "the construction of a house and a temple. Even "if they had not, still the climates of the two "countries are so different that what would be "convenient on the shores of the Ægean Sea "would be ill-placed on the shores of the British "Channel. Exposed to our biting winds, the "Corinthian acanthus would soon shed its beauti-"ful foliage."

In London, as we have seen, St. Paul's moved Landor to enthusiasm; but in a characteristic letter to Southey, then in town, he says: "I know "not what they have been doing in your capital; "but unless they open a street from St. Paul's "across the Thames, the whole width of the "church's length, they may as well do nothing." Elsewhere he speaks of "picture galleries more "fit for the mysteries of Eleusis; Houses of Par-"liament models for bride-cakes."

Landor held strong views in regard to the use of statuary in architecture. To have the images of saints and martyrs perched on the slopes of a balustrade, instead of receiving us at the door or on the steps, is as absurd, he makes Michel Angelo say, as the hoisting of emperors and kings upon a column a hundred palms above the earth, where only a pigeon would feel secure. Similar sentiments are put into the mouth of Aspasia, who expresses amazement at hearing that a barbarian prince had erected a column sixty cubits high, supporting his own effigy in marble. "Imagine "the general of an army standing upon a column "of sixty cubits to show himself. . . . It might "aptly represent the virtues of a rope-dancer." In the same epistle Landor's Aspasia refers with derision to a Thracian temple wherein were placed many flat marbles, of all forms and dimensions, fastened with iron clamps to the walls, and

inscribed in an obsolete language. It was no Thracian temple that Landor was thinking of when he wrote this. In another volume of his miscellaneous works, he treats even the best monuments in Westminster Abbey and St. Paul's as deformities in the edifice.

Bacon's saying, "Houses are built to live in, "and not to look on," is criticised in the conversation between Barrow and Newton. "Is the "beauty of cities," Newton asks, "no honour to "the inhabitants, no excitement to the defence? "External order in visible objects hath relation "and intercourse with internal propriety and de- "corousness. I doubt not but the beauty of "Athens had much effect on the patriotism, and "some on the genius of the Athenians."

NOTES, QUERIES, AND REPLIES.

St. Paul's Cathedral.

Without expressing an opinion as to the possibility of keeping the external stone of St. Paul's clean, and recollecting that Mr. Plunket signalised his presence at the head of Her Majesty's Works and Public Buildings by cleaning some of the monuments of London, sensible men—architects included—may reasonably desire to wash the outside even of the metropolitan cathedral; but washing, to be really effectual, might involve the application of much that could not fail to injure the stone, perhaps even the scraping of its surface. Were its walls constructed of the hard limestone which would take polish, by all means wash them, but the stone used belongs to that distinct class which does not; though when properly laid on its bed, and worked soon after extraction from the quarry, it acquires a glaze or coat which protects it from the weather, and even from atmospheric impurities. Once scrape off that glaze, or remove it in any way, the stone is irretrievably damaged, and under the circumstances mentioned begins to decay. England is not a stone country like France, and there is much less necessity to be practically acquainted with those natural processes inherent to all building stones on this side of the Channel than on the other. Viollet-Le-Duc, who was as well versed in the science as in the art of architecture, took some trouble to explain the theory of the use and abuse of ordinary stone in Paris and the great provincial centres of activity. He differed wholly from the late C. H. Smith, who in this country was a great authority on lithology, and who maintained that stone might be safely fixed in any position, regardless of bed, unless it presented a decidedly laminated structure. But to lay calcareous stone with its bed outwards is to expose the heart of the stone, and the façades of many stone buildings which during this century have suffered from the English weather, and have decayed, would probably have lasted much longer had all the stones composing them been scientifically laid. In the Middle Ages, the stones of arches, vaults, flying-buttresses, were so laid as to receive the force of the thrust upon their beds, the idea being that stones should be placed for use in a building as they lie in the quarry, or, as Philibert de l'Orme wrote, "ainsi "que la nature les a fait croître." As regards the desirability of working and moulding stones at or near the building for which they are intended, there can be no doubt that when buildings are executed wholly under the eye of the architect, the stones are likely to be better worked on the site or in such close proximity that the architect can constantly inspect them. But, when conscientiously done, and when stone which has just been quarried is employed, the ordinary blocks used in building are likely to last longer, and resist atmospheric influences better, when dressed and moulded at the quarry itself. The reason is easy to understand. A natural action takes place in the majority of limestones immediately after extraction from the quarry, and consequent exposure to the air. They all contain what is known as quarry-water, which, under solar influence, comes to the surface, bringing with it a certain quantity of dissolved carbonate of lime, which crystallises and forms a crust upon the exterior. That crust once removed will never re-form; hence the advantage of working calcareous stones while their quarry-water is still within them; and, moreover, they are then easier to work than when the water has evaporated. To use rough blocks of stone which have been lying exposed to the heat of an entire summer, as must frequently happen, and then to dress and mould them for building purposes, is to undo the beneficent work of Nature. At the same time, it must not be forgotten that while the sun acts advantageously upon newly-quarried stones, frost and ice are injurious to them, and exposure in the depth of winter while their quarry-water remains in them, is fatal, reducing them to fragments and dust in the course of a day or night. To return to the immediate subject which inspired these observations, the west front of St. Paul's Cathedral was cleaned some forty or more years ago—Mr. G. A. Sala says it was in 1845, but he always likes to appear older than he is—and though it became sooty again very soon, the stone did not suffer from the experiment. Some would like to repeat it, even though the Dean be of a contrary way of thinking. But whatever may ultimately be attempted, the naturally acquired crust of the stones must not be scraped off or otherwise injured.

From JOHN HEBB [*F.*]—

The Rev. H. R. Haweis's suggestion in *The Times* that the outside of St. Paul's should be washed with soda and water has met with but little support from the public. The experiment was tried some years ago upon Hanover Chapel,

Regent Street, under the superintendence of Mr. E. C. Robins, who went to Paris to study the methods employed in that city for cleansing the outsides of buildings (the periodical washing of street fronts being compulsory), and who afterwards read a Paper * describing the process. The effect of the operation upon Hanover Chapel was disastrous: the weathering of the stone was removed and a new surface exposed to the weather; the stonework of the columns is now pitted with holes, and the whole building looks as if it had been flayed. If Mr. Haweis is solicitous about the cleanliness of London buildings, let him select some other building than St. Paul's Cathedral for experiment. To most persons the colour and texture of St. Paul's are extremely agreeable; its very defects are dear to us, and it would be a thousand pities to impair its unequalled charm by any such ill-advised experiment as suggested by Mr. Haweis. "J'aime Paris jusqu'à ses ver-"rues," says Montaigne, and Londoners may in like manner say, "We are proud of St. Paul's—"even of its soot"; for it would be impossible to remove the soot without seriously injuring the appearance of the building. I would oppose to the text quoted by the reverend gentleman from Eph. v. 26: "Cleanse it—cleanse it with the wash-"ing of water," another from Matt. xiii. 29, deprecating the gathering up of tares, lest one root up the wheat with them.

The District Surveyors' Examination.

From THOMAS HENRY WATSON [*F.*]—

The result of the recent Statutory Examination of candidates for the certificate of fitness to perform the duties of District Surveyor appears to be especially worthy of consideration at a time when, under the London Building Act 1894, numerous matters are left to the discretion of the District Surveyor. I observe that whereas twenty years ago the average number of successful candidates was about ten a year, now, during the years 1891 to 1894 inclusive, the average number of successes has been only two a year, no candidate having been successful this year.

I should like to ask the Council of the Institute to consider what steps can be taken to restore a proper appreciation of this Examination, which ought, judging from the growing popularity of the other Examinations of the Institute, to be more highly esteemed than it is at present.

"Forgotten Staircases: an Old Story" [Vol. I. p. 655.]

From A. C. BULMER BOOTH [*A.*]—

Referring to the communication from Mr. John Hebb, *Forgotten Staircases*, in the JOURNAL [20th September], a discrepancy occurs as to the date the present gallery staircase of the Lyceum Theatre was erected.

The requisitions of the Metropolitan Board of Works are dated 28th July 1882, and included other important alterations besides the staircase above mentioned, notably a proscenium wall, fireproofing the carpenter's shop in the roof over the auditorium, emergency exits, &c. The works were commenced early in August, as soon as the theatre was closed for the recess. The new staircase is approached from an entrance in Exeter Street, through a passage six feet wide, at the rear of the houses in the street; to obtain such width entailed considerable expense on the owner of the theatre, as the rear walls of the houses had to be partly pulled down, and the upper structure carried on iron girders. The old staircase was removed in August 1882, and the new one opened to the public, in my presence, on 2nd Sept. 1882.

Referring to the date of the theatre, I have before me an original ground-plan, signed Samuel Beazley, architect, Soho Square, and dated 5th September 1832; there is, however, no indication of access to gallery shown thereon. The title on the plan is "The English Opera House." I believe it is not generally known that the first "strike" of workmen in London occurred at the rebuilding of this theatre.

In 1881 extensive alterations were made in the theatre, under my personal superintendence (Wm. Hudson, Son, & Booth), including principally the access from lower to upper vestibule (first-circle level), new staircases to second circle and amphitheatre stalls, removal of the horseshoe wall (18 inches thick) dividing the auditorium from a corridor, thereby obtaining an increased seating area; excavating the area under the stalls and pit, and obtaining a large storage room for scenery, &c.; new drainage system and sanitary arrangements, and opening up doorways from each side of stage for access to a vaulted corridor following the horseshoe form of the house, by which processions could pass across the stage, under the auditorium, and appear again on the other side. The whole of the aforesaid area had been filled up with the *débris* from the building destroyed by the fire, the original foundations of the earlier building being considerably below the street level.

The access from the lower to the upper vestibule, as originally designed, was through an opening only 5 feet 9 inches wide. This was increased in 1875 to three openings, the two additional ones being about 4 feet 9 inches each. As seen in 1881, the approach is 16 feet wide. I believe further alterations have been made during the last few years in different parts of the theatre.

* TRANSACTIONS, 1873–74, p. 98.

MINUTES. I.

At the First General Meeting (Ordinary) of the Session 1894–95, held on Monday, 5th November 1894, at 8 p.m., Mr. F. C. Penrose, F.R.S., *President*, in the Chair, with 57 Fellows (including 15 members of the Council), 41 Associates (including 2 members of the Council), 3 Hon. Associates, and 30 visitors, the Minutes of the Meeting held 25th June 1894 [Vol. I. T.S. p. 571] were taken as read, and signed as correct.

The President announced that Francis Lennox Canning, of Johannesburg, South African Republic, had been reinstated in his position as Associate.

The President further announced that at the Statutory Examination, held on the 25th ult., a certificate of competency to act as District Surveyor under Local Authorities had been granted to Francis Baugh Andrews [*A.*] of Birmingham.

The following candidates for membership, whose nomination had been previously approved by the Council, were recommended for admission:—As FELLOW, Edward Ingress Bell [*A.*]. As ASSOCIATES, Walter Hugh Barker (Wrexham); Eustace Godfrey Bird (Ontario); Harry Jefferis (New South Wales); Robert John Thomson; Alfred Wright Toynton; Harry Harrington. As HON. ASSOCIATES, Alfred Gilbert, R.A.; William Blake Richmond, M.A.Oxon., A.R.A., F.S.A.; Frederick George Hilton Price, Director of the Society of Antiquaries, F.G.S. As HON. CORR. MEMBERS, Emerich Steindl, Professor of Architecture (Mediæval) in the Royal Polytechnic School, &c. (Budapest); Alois Hauszmann, Professor of Architecture in the Royal Polytechnic School (Budapest); Charles Buls, Burgomaster of Brussels; Henri Edouard Naville, D.Ph., D.Litt., *Correspondant* of the Institut de France (Geneva); Barr Ferree, B.Sc., University of Pennsylvania (New York).

The following Associates, attending for the first time since their election, were formally admitted, and signed the Register—namely, Arthur Henry Wharton Glasson, Louis Jacob, and Lewis Eric George Collins.

The Opening Address of the Session having been delivered by the President, a vote of thanks, moved by the Rev. Dr. Gregory, Dean of St. Paul's, and seconded by Mr. Alma Tadema, R.A. [*H.A.*], was passed to him by acclamation, and briefly acknowledged.

Finally, on the motion of the President, who in the course of his Address had alluded to the decease of Wyatt Papworth, it was

> RESOLVED, that an expression of sympathy and condolence with the widow and children of Wyatt Papworth [*F.*] for the loss they have sustained by his death be entered on the Minutes of the General Meeting, and communicated to them.

The proceedings having terminated, the Meeting adjourned at 9.30 p.m.

The Glasgow Institute.

On the 23rd Oct. the following office-bearers were elected for 1894–95:—President, Mr. T. L. Watson [*F.*]; Vice-President, Mr. J. J. Burnet [*A.*], A.R.S.A.; Auditor, Mr. David Thomson; Hon. Treasurer, Mr. Alex. Petrie; Secretary, Mr. C. J. MacLean, Writer. Members of Council, Messrs. T. L. Watson [*F.*], Alexander Petrie, Henry E. Clifford, John Keppie, John B. Wilson [*A.*], J. M. Monro, A. G. Thomson, John Thomson, J. J. Burnet [*A.*], J. A. Morris [*F.*] (Ayr), and George Bell.

PROCEEDINGS OF ALLIED SOCIETIES.

THE MANCHESTER SOCIETY.

On the 2nd Oct., at the opening Meeting of the Session of the Manchester Society of Architects, the following Address was delivered by the President, Mr. John Holden [*F.*]:—

GENTLEMEN,—Allow me first to say how much I appreciate the honour you have conferred upon me by electing me for a second time to the Presidential Chair. My only fear is that I may not be able to follow, in a satisfactory manner, the footsteps of my predecessors in office. You must, however, bear with my shortcomings as much as possible, and consider them as due to my natural inability, and not to any want of intention on my part.

Retrospectively, the last two or three years have been eventful ones in the history of this Society. The times have changed very materially since its formation in 1865, and the arrangements which satisfied the members of the profession at that time became no longer applicable in 1891. Hence the reconstruction of the Society, and the consequent changes in the regulations, a task of no small difficulty, and one which required very delicate handling. The alteration was, however, carried out ultimately, under the skilful pilotage of our then Presidents, Mr. Wm. A. Royle in 1889, and Mr. R. Knill Freeman in 1890–91, to whose tact the success was largely due.

Now, a change of this kind, involving radical alterations, in fact revolutionary in its character, is always a crucial period in the history of any Society, and is one calculated to cause very great anxiety in the minds of those responsible for the change. At times it appeared as if the whole scheme would come to an end—and if so, I doubt very much whether it would even have been tried again—but happily the clouds passed away and the end was accomplished. It was the right thing to do, and I am glad it was done. At the same time I may tell you now, that if it had to be done again I, for one, should hesitate to face the difficulties. It was, however, better for it to be carried out while so many of the older members were actively engaged in the work, and when the rearrangement of the Royal Institute of British Architects (with which some of us had a great deal to do) acted as an additional reason for changes in the local societies. Then, again, the older members here were at that time so intimately connected with the Institute, and also with the different provincial Societies, that the status and influence of this Society could be kept up during the changes necessary in its reconstruction. The Society had built up its position during the preceding quarter of a century by hard work and a considerable expenditure of both time and money, and it was essential that this position should not be jeopardised; and by the course taken, instead of the reconstructed Society falling back and, as it were, commencing *de novo*, it was enabled, not only to retain its former position, but to continue its work with increased vigour.

One of the results of the change has been, as you are aware, a considerable increase in the number of members, principally younger men with new ideas and new blood, and this must and will in the end be of great service to the Society. Of course, there are always little difficulties arising in such an event, but these will, I am sure, in time pass away. It seems to me that I can already notice a considerable difference in this respect, a quieting down, as it were; and I look forward to the time when the same intimate acquaintanceship amongst all the members will

prevail as was the case in the former period of the existence of the Society. Before I leave the subject, I would wish particularly to mention that in this, as in most other Societies, the actual work is carried out voluntarily and gratuitously by all the officers for the benefit of the whole of the members, and that, consequently, a very great expenditure of time (and it must not be forgotten that time is money) takes place by those gentlemen who accept office. I put it plainly therefore to you, that it is the duty of every member to assist in making this sacrifice as light as possible. Let every member consider that he is practically in training for office, that some day he will fill the office of Honorary Secretary, Member of Council, Vice-President or President, and that then he will in his turn have to suffer from the inconsiderate conduct of others. What I most particularly refer to is inattention to regulations, thus forcing the Secretaries to make repeated applications for things which should be done at once and without notice; non-attendance at meetings, thus possibly rendering a meeting inoperative, and so wasting the time of those members who have attended, very likely at considerable inconvenience to themselves; and disregard of notices sent which require answering. These matters render the different offices intolerable, and may result in alienating from the Society many members who have been and are still its best friends. The attendance at meetings is of the greatest importance. As you are aware, the Council meets at five o'clock generally, transacts its business, and then most of the members remain and attend the General Meeting at 7.30. Many members remain in town at considerable inconvenience so as to do their share in the work; and I can assure you that it is not by any means pleasant after waiting the stipulated time, half-an-hour, or till 8 o'clock, to find that there is no quorum, that no business can be transacted, and that the entire evening has been wasted. This is not a fancy grievance, but has occurred many times; and in one instance it was not till the third meeting that a certain piece of business could be transacted, the two former meetings having been abortive.

Now, to turn to another subject, the Society has since its reconstruction sustained a great loss in the death of five of its members, Messrs. Elgood, Tuke, and Crowther within a few days of one another in March 1893; Mr. Maxwell in September 1893; and Mr. Lawrence Booth in July 1894, all men of high position and character. Mr. J. S. Crowther was the least known personally of all, but perhaps the best known by his works, which were mainly of an ecclesiastical character.

We also in March 1894 lost our old friend, the Honorary Legal Adviser, Mr. J. H. P. Lereseche, a gentleman who has been connected intimately with this Society for the last ten years. His death will, I am sure, be felt very much by many of the older members who had known him years since when he was practising at the Bar. He was a sound lawyer, kind and genial in his manner, and a good man, and he will be missed by many people. He was elected into the Society during my former Presidency in 1884, and I regret very much that one of my first duties after my re-election this year should be to refer to his passing away from amongst us. I may here say that this office has been filled up by the appointment of Mr. William Goldthorpe, barrister-at-law, a gentleman well known to most of us, and one who will, I am sure, be a worthy successor to our late friend.

Against these losses the Society has gained by the advent of several new members, who, I hope and believe, will in time become energetic and good workers.

Turning now to the work of the Society, there are many matters which have still to be dealt with and which are of considerable importance. Competitions still give trouble, and disappointments arise in consequence. The action taken by the St. Helen's Corporation in connection with the technical school is an instance. This was a case in which designs were invited for a building to cost a certain sum, an assessor being named. Designs were sent in, amongst which were those by a firm, members of this Society, who had great experience in this particular branch of work. The assessor placed their names first on the list, at the same time stating that, in his opinion, none of the designs could be carried out for the amount named. No doubt this was correct. The authors of the designs named by him as worthy of the premiums were therefore requested to reconsider their respective drawings, and to report with a view to reducing the cost to the amount named. This was done, and additional drawings were prepared, showing the modification suggested. They were resubmitted to the assessor, who again placed our friends' design first. Shortly after, the authors received from the Corporation a cheque for the first premium—I think, £100—and a note thanking them for their attention, and informing them that the carrying out of the building had been placed in the hands of the architect who was placed second in the assessor's list.

Now, Gentlemen, the course taken by the Committee opens out a matter which it will be well for those entering into competitions to consider carefully, as I think I may say without fear of contradiction that very few persons enter into competitions (excepting for very large and important public works) simply on the chance of gaining one of the money premiums, but that they do so on the implied understanding that if they are successful, so far as the assessor's opinion is concerned, and if their position is such as to leave no question open as to their ability to carry out the work, the building will be placed in their hands. The firm in question can very well afford to disregard any suggestion of want of ability or position; in fact, no such suggestions were attempted. The result, however, was not only annoying, but it strikes at the root of that confidence which should subsist between the profession and the public in these matters; and there is no redress, as the conditions carefully provided that the Committee should not be bound to employ any of the authors of the designs submitted.

It would be well in future to examine carefully the terms of a competition, and note whether the Committee reserve the right either to employ the successful competitor or not at their option, and then act accordingly.

The question of builders depositing their priced quantities is one which has also engaged the attention of the Society, as this is a matter of considerable importance. It is, however, a difficult matter to deal with, as underlying the whole is a suggestion of fraud on both sides. I put this in plain English, because, in my opinion, it is no use dealing with side issues while the very root of the matter is ignored. The architects charge some of the builders or their sub-contractors with manipulating the prices in the quantities before they are produced at the final settlement of the account; and the builders retaliate by charging some of the architects with opening the quantities when deposited, examining the prices, and re-arranging the materials and workmanship during the carrying out of the work, so as to be able to deduct matters which have been highly charged and to substitute others in which the prices are low. Now, this is, in my opinion, on either side simply a fraud, and I feel unwilling to believe that any architect or builder having any pretensions to position would take such a course, which, if found out, should result in the architect being requested to retire from any professional society and the builder being practically boycotted. Assuming it, however, to be the desire of both parties to act straightforwardly and to prevent suspicion, there should not be any difficulty in dealing with the question so as to take it out of the power of either party to act unfairly; and I see no reason why a schedule or copy of quantities priced out should not be sealed up and deposited in the joint names

of the architect and builder with some independent party—say, the referee named in the contract, or placed in the joint names of the parties in a "safe deposit," if such exists in the town, or at a banker's, where it would remain and be available only on the joint application of the parties.

I think, however, that a considerable amount of the difficulty will be found to exist between the builders and the sub-contractors, and that if contracts are divided and given separately to the different trades, the difficulty will cease to exist. This course, however, is not as convenient to the architect; hence it has not up to the present time found much favour with them. It is a matter, however, to be considered now.

It is of importance that some list of prices should be arranged before the contract is entered into, or otherwise difficulties arise in many cases in squaring up the accounts. We all know the remarkable difference which exists in the value of work in additions or in deductions, and we also know the great expense of a dispute. At the same time, I cannot help thinking that much of the difficulty arises from a want of tact on the part of the architect, and also a want of consideration in pricing out additional works in accordance with special circumstances. A hard and fast line in dealing with schedule prices is in many cases neither just nor proper. All the attendant circumstances should be carefully considered, and also the time at which the work is executed. Many of these matters have come before me in references, and I have seen items priced by the architect in a manner which certainly justified a positive refusal on the part of the builder to accept them; and on the other side, I have seen prices equally unfair for additions, and deductions either entirely ignored, or put down at ridiculously small prices on the chance of their being passed, claimed by the builder.

The whole matter in dispute is one of confidence. Many well-known architects will not, I am sure, have any difficulty in dealing with the question in their own practice; while others, equally honourable but perhaps less known, will be troubled. I am afraid the matter will have to remain *in statu quo* until the architect and the builder have mutually gained that confidence in each other which is really required and which ought to exist.

The decision of the Builders' Association notified by the circular sent to the Council of this Society, dated 22nd May 1894, to the effect—that the priced quantities shall not be given up to the architects unless they are made part of the contract, but that, if required, they shall be produced at the final squaring up of the building for the purpose of settling the accounts—was at once accepted as a settlement of the question so far as this Society was concerned; but this was withdrawn by the builders in a second circular, dated 20th June 1894, which was as follows:—That the priced quantities shall not be given to the architects, but that if so requested, they shall be produced at the final squaring up of the building for the purpose of settling the accounts.

This, I need hardly say, is useless in a general sense, as it does not deal with the architect's objection in any way, and there is not the slightest guarantee that the prices are those of the original contract. Difficulties will no doubt be found in small contracts, but I doubt very much whether there will be any trouble in obtaining the priced quantities for large works if it is insisted upon. Competition is very keen now, and I hardly think that the average contractor will allow work to pass into other hands on these grounds. I would suggest for the consideration of both architects and builders the following terms, which, I think, fairly meet the difficulties of the case:—

(1) The quantities priced and moneyed out to the amount of the contract sum to be produced at the signing of the contract, to be sealed up and, in the names jointly of the architect and the builder, deposited with a banker who may be agreed upon, with instructions that the parcel is to be produced only on the joint application of the parties.

(2) The architect to have the right to check the carrying out of the items in the deposited copy when it comes into his hands at the squaring up of the contract, and also to rectify prices on either side which are palpably incorrect (clerical errors), such rectification not in any way to interfere with the contract sum, but to apply solely to additions and deductions or extra works.

(3) All variations from the contract, both additions and deductions, and all extra works to the extent of 10 per cent. above the contract sum, are to be priced out at the rates named in the deposited quantities.

(4) All further additions (above the 10 per cent. extra) are to be considered as additional works, and the prices to be subject to revision or confirmation, to be agreed upon, if practicable, at the time the work was ordered.

(5) All clear deductions from the contract when there are no corresponding additions, or additions to an equal value in similar materials, to be priced out at 5 per cent. below the rates named in the deposited quantities.

These terms are, I think, fair and reasonable as between the parties, and, if adopted, would prevent any suggestions of fraud on either side. But, even in the event of such an arrangement being made, the architect must not forget that in the absence of the priced quantities to guide him it will be necessary for him to be very careful not to overestimate the value of the work executed when he is certifying for payments on account; and also to be careful that the contract does not state that extras and deductions shall be priced at the same rates as the original quantities, unless at the same time it stipulates that the quantities fully priced out shall be handed over before the work is commenced. In the discussion with the representatives of the builders, the principle of sealing and depositing the quantities with an independent party did not find favour with them. This would lead me to suppose that the complaint made by them of "architects tampering with "the quantities" is not a *bonâ fide* one, and that there is something else in their minds which has not yet been disclosed.

I would here mention another matter which I hope to see carried out. You all know that Manchester is now becoming the great educational centre of the North of England, and from the facilities afforded to students in the way of libraries and other matters, it should, and no doubt will, be a great success.

Now, Architecture, which is so important a branch, has at present no particular status in the educational curriculum at the principal establishments in this city, that is, at Owens College and Victoria University. This, I think, should not be the case, and I hope to see a Chair of Architecture established at this centre, which would be of great use to the profession in the North of England. To attain this end, however, it will be necessary for all of us to work steadily; and in this matter much can be done by the younger members, who must show by their actions that they would appreciate the benefits which would accrue from such a cause.

I confess that I should like to see more of the Manchester students entering for the examinations which have been held here, especially those for the Associateship of the Royal Institute, because this is, after all, the great test of efficiency at present in operation. I would remind you (and I now refer particularly to the younger members) that you are the men who have to succeed us and to take up the conduct of this Society when we pass away—at least, out of active participation in the work; and this period cannot, in the natural order of things, be very far distant. Remember that, under the rules of the Society, the President and Vice-Presidents must be Fellows of the Institute; hence there is a serious limit to your position in the Society unless you qualify yourselves—and I can assure you that you will find it much easier to pass these examinations, so as to take these positions, while you are

young, and before you enter upon the serious responsibilities of life, than afterwards.

The Progressive Examinations now going on will, in March or April next year (1895), culminate, I may say, in the Final Examination to qualify for Associateship. Those already held have been Preliminary and Intermediate; and the single Qualifying Examination, which has been held in London and Manchester, will, except under special circumstances, then cease.

I will also take this opportunity to appeal to the older members to spare a little of their time for the benefit of the others in preparing and reading Papers, which will, I am sure, be of interest as well as benefit to all of us. I am perfectly aware that these entail the expenditure of considerable time in their preparation; but after a gentleman has been in practice and actively engaged for from thirty to forty years there must be in the storehouse of his memory a large amount of valuable information on many subjects which cannot fail to be of interest, especially to those just entering life. Even a short, chatty Paper is valuable, as indicating something to induce students to think and read; and accounts of troubles in construction surmounted, defects discovered, and even failures, are of importance to all of us. Such Papers as I have indicated would, I am sure, be of interest, and would make the meetings more popular; and the meetings must be well attended before we can hope for Papers from outsiders to be a success. In this I refer more particularly to the comparatively small number who have attended at some of the meetings at which Papers have been read. Nothing is more disheartening to a lecturer than to find a small attendance, especially if he has, possibly at some inconvenience to himself, travelled perhaps a hundred miles and brought with him a number of exhibits and drawings. His expenses may be paid; but we cannot pay him for the time lost, or for the annoyance of feeling that his services have not been properly appreciated. Our Society numbers something like 135 members of all kinds, and out of that number we should be able to command a good attendance if their hearts are in the work, and if they are really seeking after information. These remarks apply both to seniors and juniors, as I consider it important that the seniors should by their example induce the younger members to attend.

Before I finish my remarks, I would remind you that we have a library upstairs, with plenty of vacant shelf room, and that any contributions to it which can be spared from our own libraries will be most acceptable. Good books are, I know, expensive luxuries, and are not always to be obtained by students excepting at libraries of this description. Of course, there is the Free Reference Library in King Street, but I think a public library cannot be as convenient as one of a private character, where everything is quiet and conducive to study. I appeal to those of you who can afford it to do something towards providing the means of education for those who are not so fortunately situated. Now let me mention a very valuable gift of books recently made to the Library by Mrs. Whitaker, the widow and sole executrix of the late William Wilkinson Whitaker, architect of this city, a gentleman known to very few of the architects of the present day, as he retired from business a quarter of a century ago. He possessed a very fine library to which he was constantly adding. After his death, on the 30th May last, his widow very generously presented about thirty-five volumes of valuable books to our Library, amongst which will be found several by Digby Wyatt; Gally Knight's *Antiquities of Italy*; Carter's *Architecture*, and others. In addition, she supplemented the gift with a sum of money for the purchase of other books.

Now a word to the students. I sincerely advise you to work and read, and take advantage of every opportunity which may come in your way of obtaining information, not only in the artistic and theoretical part of the profession, but also in the practical part. Remember that at the present time an architect must not only be master of the practical as well as the artistic part of the profession, but he must also be a thorough business man if he is to succeed, and if he does not intend to remain simply a clerk. Look around, and you will find that the majority of the successful men in the profession are, in addition to their artistic capabilities, clever and reliable business men—men whose advice is sought after in many matters not purely architectural or artistic. Therefore, while I do not for one moment suggest that the artistic part is to be neglected—far from it, as it should be the foundation-stone of the whole - still by all means cultivate the practical and business part, and lose no opportunity of gaining experience. Also, remember that even a good and correct opinion may be spoiled by the manner of expressing it; therefore cultivate the habit of putting your thoughts on paper for future reference. There is a great art in writing and in expressing your views clearly. Again, do not be afraid of asking questions. The days are happily passed in which the seniors attempted to keep their information and experiences to themselves, and a more just and generous time is now running. Every right-minded man will gladly hold out his hand to assist the younger members of the profession; and in stating this, I am sure I am but expressing the view of all my professional brethren.

Now, Gentlemen, I have spoken very plainly to you, for which you must pardon me. Remember that the Society occupies, and always has with me occupied, a first place. I have seen it grow up from a very small and unimportant one to one of now considerable importance, both in position and numbers, and for something like twenty-two or twenty-three years I have never been out of office—first for over eleven years as Honorary Secretary, following my friend Mr. Murgatroyd, and consequently having a hard road to travel; then as President, and afterwards as Member of Council and Vice-President. Even when I should have had a year's respite following the Vice-Presidency I happened to be a member of the R.I.B.A. Council, and consequently remained Member of the Council of this Society.

You will therefore see that, as far as I have been able to do so, I have not spared myself, and I have endeavoured to keep up the status of the Society and to further its interests. I now ask you all to do your utmost in the same direction; and, if you do, there is no doubt that we shall not only retain the position in the architectural world which we have already gained, but shall make it more pronounced.

THE LIVERPOOL SOCIETY.

On the 8th Oct., at the Opening Meeting of the Forty-seventh Session of the Liverpool Architectural Society, the following Address was delivered by the President, Mr. Henry Hartley [*F.*]:—

Gentlemen, - I have already made my public acknowledgment of the honour you have conferred upon me in re-electing me President of your Society; and at this the opening of our forty-seventh Session, when we resume our work after the summer recess, and bid you welcome, I trust to find you, one and all, ready to perform with renewed vigour the duties that lie before us. I regret, however, that the very first note in my opening Address must be in a minor key and one of sadness. The name of Joseph Boult is as a household word to all of us, but by those who were associated with him in the years that are past he will be long remembered as an active and able worker in our Society. Few men worked more vigorously and more untiringly for the establishment and prosperity of our Society, did better work, or sacrificed more time in his efforts to build up its position and its usefulness. We may not have agreed at all times with some of his theories, but I feel sure there are none who will not acknowledge his devotion and work.

The few months that have elapsed since we met have not been crowded with events of any special interest to us, but there are one or two that demand notice; others, indeed, of the greatest importance are of such moment that the whole of our future may be influenced by them.

I cannot refrain from mentioning the generous and noble gift of Mr. Philip Rathbone in presenting to the town the six panels in the east front of St. George's Hall. The commission of designing and carving these panels was entrusted to Mr. Stirling Lee, and they have been executed with the feeling and artistic finish that we look for in his work. If any of those whom I address have not yet inspected them, I would invite them to do so, feeling sure that they will then agree with me that such a gift is one worthy of the honoured name of the donor, and of the noble building of which we Liverpudlians are so justly proud. Surely this example of private generosity should set our City fathers to work, and inspire them with a determination to complete the panels remaining; and I hope to bring this matter before the members of the Society at a later date, with the object of asking them to petition the Corporation of the City to carry on the work so generously begun, in the hope that this noble pile may yet stand finished and complete as designed by the architect, a monument of his genius and worthy of the best traditions of our town.

The Congress of the Sanitary Institute has so recently concluded that it is hardly necessary to say much about it, for we have still one of its creations surviving—I mean the Health Exhibition. I feel, however, that I ought not to let it pass without expressing my satisfaction at Liverpool having been selected as the place of meeting this year, and the consequent advantages we have had in attending the discussions and listening to the admirable Papers on subjects which must always be of interest to our profession. Such subjects as "The Housing of the Working Classes, " and the Sanitary powers relating thereto," "Tenements, " Houses, or Dwellings in Flats," "The Purification of Air " emitted from Hospitals," and subjects connected with drainage, ventilation, water supply, and the like, are of essential importance to the welfare of the nation at large, and must ever be of the greatest interest to those engaged in our profession when dealing with buildings in our crowded towns. Bound as we are to cultivate what is beautiful and true in art, what will elevate and ennoble the mind, we are at the same time compelled to see that we have the most perfect sanitary conditions and the most healthful surroundings that science and practical experiment can suggest; and as our population is ever gravitating to our large centres, and the evils of centralisation increase, the greater is the need to be prepared to cope with the serious questions which arise in the erection of our town dwellings. It is gratifying to learn that no previous Congress of the Sanitary Institute has been attended by such large numbers; and, in the judgment of those qualified to express an opinion, none have been in all other respects so successful as the one just closed.

And now, Gentlemen, I approach the subject which interests us more personally—I mean the establishment of the "School of Architecture and the Applied Arts." It affords me the greatest possible pleasure in formally introducing to you Professor Simpson, who has been appointed by University College to the Chair of Architecture, and who is also the Director of the School. There can be no question that we may congratulate ourselves at the opening of this Session of 1894 on the establishment of this new and fully-equipped educational organisation. The scheme is already manned with an able professor and skilled instructors, and will be formally launched in the course of the next few weeks. Professor Simpson, who comes amongst us as a practical architect of known and recognised ability, supported by testimonials of the highest order from the leading men in the art world, is to have associated with him Mr. Aning Bell, the painter and decorative artist, and Mr. Allen, the sculptor, both gentlemen of recognised ability in their respective professions, together with skilled instructors in wood-carving, modelling, iron and brass work, &c., so that nothing will be wanting to make the new school a great power in the education of the rising generation. With wider knowledge and improved opportunities, together with increased proficiency of technical and artistic skill in the various arts and trades associated with architecture, I look forward confidently to a marked advance in the practice of our art.

The only thing, as far as I can foresee, now necessary to establish the new school on a firm and satisfactory basis is the hearty co-operation or support of this Society, as well as the active assistance of the members of our profession and of the public generally. I have already from this chair placed before you the duty that lies upon you of collectively and individually helping forward the scheme by every means in your power, and I can promise you not only the satisfaction of advancing a scheme of general interest but of personal advantage, for the pupils who in the future enter our offices will be already versed in some of the detail, and have a fuller knowledge of the theoretical and mechanical part of their work, than pupils have hitherto had, so that instead of having to deal with raw material—and some of it the most unpromising and unworkable of its kind—we shall have students who have already gained more than a rudimentary knowledge of the profession they propose to follow, trained by systematic study, and ready to proceed with the acquisition of the further knowledge to be acquired only in the work of the architect's practice. As to the students themselves, I cannot over-estimate the importance of the opportunities which this school will open up to them. They will be able, in a regular and systematic course, to acquire knowledge which, under the old conditions, had to be picked up at irregular intervals and from doubtful sources in the busy office of the architect to whom they were articled. Further, it will give them the opportunity, before being formally articled, of testing their abilities, and of satisfying themselves that the profession of architecture is the one which is most congenial to their tastes and abilities, and to which they are prepared in the future to devote their energies and their lives.

We cannot forget that our Society is allied to the Royal Institute, and all of us are proud, as members of this Society, to belong indirectly to that venerable institution; but many, and indeed I hope all our younger members, are anxiously looking forward to become Fellows or Associates of the Institute at some not far distant time. To attain this end it is necessary to qualify by examination; and I have here before me particulars of the new Progressive Examinations, embracing the two examinations which must be passed before the student can enter for the Final or Qualifying Examination, and also a Form of Application for such architects and chief assistants as may apply to the Institute Council for exemption from passing the Preliminary and Intermediate Examinations and from submitting testimonies of study. [The President gave a description of each of the Progressive Examinations, as explained on the several Forms of Application distributed among the Allied Societies.] To those who desire further information on the subject I shall be glad to give any assistance in my power, and for their guidance I propose to leave the papers sent me in the students' room so that they may be referred to at any time.

Now to return to the School of Architecture. Although the School has not been established with the sole object of preparing pupils for these Examinations, the educational course will include, *inter alia*, the necessary subjects to enable young men to qualify for admission to the Institute Examinations.

I trust you are able to realise the importance of these

advantages. In past years our Society has endeavoured, and I may say has, to an extent, successfully endeavoured, by the devotion and self-sacrifice of a number of our members, to provide courses of lectures to students so as to help them to qualify for their examination; but the new school will provide a more complete and more perfect curriculum of study, and will give our future students advantages that few, if any, provincial towns enjoy.

THE SHEFFIELD SOCIETY.

On the 11th Oct. the Sheffield Society of Architects and Surveyors held the opening meeting of the Session, with the President, Mr. E. M. Gibbs [*F.*], in the Chair. The rooms of the Society of Artists of Sheffield were kindly lent for the occasion, and the opportunity of inspecting the rare works of art there collected was much appreciated by the large number of visitors present. On view also were the sketches and measured drawings of ancient buildings of the district, executed during the past summer months by the younger Associates and Students, and submitted for the prizes of the Society. The President, in the course of a brief address, expressed the great satisfaction of the Council at the excellence of the work done by the Sketching Class, the credit of which was largely due to the efforts of the instructor, Mr. J. R. Wigfull [*A.*], *Inst. Silver Medallist* 1894. Out of consideration for the numerous lay visitors present, Mr. Gibbs forbore to touch upon professional topics, but gave a short sketch of the objects and work of the Society. The latter, he said, was largely educational, whether in the form of lectures and discussions on special subjects, and the formation of a library for the benefit of all the members; or in the form of classes on the study of the history and styles of architecture, for sketching, for designing, and on surveying and levelling, for the benefit of the younger members. The work of the Sketching Class exhibited was only a small part of the educational work of the Society. The Society was also active in matters relating to professional practice, and desired, whilst protecting the interests of the profession, to command the respect of the general public, by maintaining the honour of its members, and the standard of their ability to solve successfully the complex problems of modern building and surveying, by combining the most perfect arrangements of plan, the best construction, and the most artistic conception and finish, with the soundest advice as to values and costs, and the practical superintendence of the work.

The final business consisted in the presentation of prizes to the members of the Sketching Class, the first of which was awarded to Mr. Frank W. Chapman, and the second to Mr. J. C. Amory Teather.

THE GLASGOW INSTITUTE.

On the 16th Oct. the annual meeting of the Glasgow Institute of Architects was held in the Religious Institution Rooms, Buchanan Street, Glasgow, Mr. W. Forrest Salmon [*F.*], the President, in the Chair. Mr. C. J. Maclean, the Secretary, submitted the Report of the Council, which made feeling reference to the death of Professor Veitch, who was one of the few Honorary Members of their Institute, and of Mr. James Hamilton, 112, Bath Street, who was one of the original members, and well known in Glasgow and the West of Scotland as a man of ability. Messrs. J. Lindsay, J. Miller, and W. J. Boston had been admitted to membership during the year. The number of ordinary members on the roll stood at 52.

The conditions of competition for the Govan Congregational Church, which were not in accordance with the Suggestions recently adopted by the Institute, were under consideration by the Council; as were also the terms of competition for a public hall, free library, and other buildings at Kirkcaldy, and the Paisley Grammar School and Academy. The Council, when sending copies of the Suggestions to the promoters of these competitions, took occasion to point out that the Suggestions were framed in the interests of those in charge of the competitions, as well as of the competitors themselves. As it was considered desirable that the Suggestions should be more widely circulated, copies were sent to the leading firms of measurers, lawyers, and accountants in Glasgow.

With regard to the representation of Allied Societies on the Council of the Royal Institute, the latter Body had been asked to consider the advisability of putting the Glasgow Institute in the same position in this respect as the Royal Institute of Ireland, for so long at least as no Allied Society existed in Edinburgh. The parent body in London had thereupon resolved:—"That until Edinburgh become an "Allied Centre, there shall always be on the Council of "the Royal Institute the President of some Allied Society "in Scotland, and that it shall be the President of such "Allied Society as contains the largest number of members "of the Royal Institute, provided such President shall be "a Fellow of the Royal Institute."

An intimation had been received from the Royal Institute that if six persons as a minimum in the Glasgow district were admitted, either to the Preliminary Examination held in February last, or to the single examination qualifying for Associateship held last March, the Glasgow Institute would be asked to take charge of those examinations. The Council had agreed to accept the charge, and had appointed two Committees to carry it out; the first, consisting of the whole Council, to take charge of the Written and Graphic examination; the second, consisting of the Fellows of the Royal Institute, who were also members of the Glasgow Institute, to conduct the Oral examination. In the case of the Preliminary Examination, a sufficient number of candidates had not come forward; for the other Examination, six candidates entered themselves, and the examination was proceeded with under the charge of the Committees. Of the five candidates who presented themselves, all passed. The last of the single examinations would be held in November in London and the provinces, after which the system of graded examinations, promoted by the Royal Institute of British Architects, would come into full force.

The Alexander Thomson Memorial Prize was won by Mr. John H. Craigie, of Shawlands, and a Committee was appointed to arrange with him regarding the tour he is to make in terms of the conditions of the competition. The Standing Committee on Public Architecture have had under consideration the designing of the public buildings of the city of Glasgow, and, on their initiative, the Council of the Institute are in correspondence with the Lord Provost on the subject. The Council were again in communication with the Police Commissioners regarding the promised exhibition of the plans of the bridges proposed to be erected over the Clyde; and a letter was received from the Commissioners stating that the original drawings of the proposed bridges had been departed from, but that the Institute's suggestion as to the public exhibition of the drawings would be kept in view when new drawings had been fixed upon. A course of lectures on Mediæval Architecture would be delivered in the Corporation Galleries during the coming Session.

The President, in moving the adoption of the Report, said that the question of employing architects for the erection of public buildings had come up during the past year. Surely it must be to the public advantage that architects of the greatest experience should be appointed to design and superintend the erection of public buildings. The employment of independent architects would not cost a penny more than the present system. If this course were pursued, public buildings in Glasgow might be more worthy of the city, in whose welfare and advancement all were interested. The Institute knew that the Lord Provost himself was very much interested in the architec-

ture of Glasgow, and they therefore hoped that something might result from their suggestions in this direction. Why should not every building erected with the citizens' money possess those qualities of fitness and beauty which would command for them the praise of future generations?

THE BIRMINGHAM ASSOCIATION.

On the 2nd Nov., at the opening Meeting of the Session of the Birmingham Architectural Association, the following Address was delivered by the President, Mr. William Henman [A.]:—

GENTLEMEN,—The honourable position in which I am placed by your goodwill, for which I now tender to you my heartfelt thanks, confers both privilege and duty. Strengthened by a cheerful continuance of your favours and support, let me assure you it will be my endeavour to employ the privileges and perform the duties of the office of President in such manner that the interests of our art in general may, at least, be maintained, and those of the Birmingham Architectural Association may, if possible, be advanced.

In opening this the twentieth session of the Association, I not only congratulate you upon the success of that just past, as set forth in the Report of the Council, but also upon the excellent programme which has been drawn up for the coming session. The subjects to be brought forward by able men are such as will, I am sure, secure large attendances of members and our friends.

"Architectural Education" is first on the list, and I venture to predict that the Director of our City School of Art, Mr. E. R. Taylor, will tender sound advice as to how a sure foundation may be laid by those who aspire to succeed in our arduous profession.

Then comes Mr. F. R. Farrow, who will give his experiences of the preparation necessary for passing the R.I.B.A. Examinations—those tests which, by our leading Society, have been put into operation in order that each may prove whether or not the foundation be truly laid whereon to raise a fairly proportioned architectural reputation. I have no intention to trench upon ground over which Mr. Farrow will lead you, but may just mention that in the spring of next year the Institute will conduct an examination to qualify for candidature as Associate R.I.B.A. on new lines, particulars of which have been issued, and will be placed in this room for reference.

Urgently would I recommend all members of this Association who are qualified and have not yet entered upon active practice to submit themselves for examination at the earliest opportunity. No greater mistake can be made by a student in architecture than to defer this test until the pressure of actual business makes it so excessively arduous that he is compelled to forego it. It is true that at present the Institute makes concessions to such; but shortly those concessions will be withdrawn.

Now that it is realised that examinations should be proof of knowledge, rather than tricky traps to trip the timid, the Institute has, in my opinion, done well to make them Progressive, viz. Preliminary, Intermediate, and Final. Any youth on leaving school ought to pass the first. Two years' pupilage in the office of a practising architect, together with personal study, should carry him through the second. Another year in that office, and a year as improver or assistant in another office, with further individual application, should secure success in the third.

In my early student days such matters were only talked about. Then came the somewhat unsatisfactory Voluntary Examination, which by many of us was regarded with little favour, as likely to show up our ignorance, with no compensating advantages to those who were successful; but now, let me remind you, membership of the Royal Institute can only be secured after success in examination.

Let none here present look slightingly upon that distinction, because, now that the scheme has been fairly launched, the public will assuredly in time come to realise its importance; and although one here and there highly gifted may possibly attain success without having officially proved his metal, the ordinary practitioner who has not done so will undoubtedly be heavily handicapped; and even the genius may thereby earlier gain favour, and eventually soar to greater heights than without that systematic study which alone would enable him to pass successfully the Institute Examinations.

Unfortunately, there are a few able men in our profession who not only do not support the Institute in the matter of examinations, but even go out of their way to speak and write against it, asking the question: Is architecture an art or a profession? In answer, I would say that to some it is an art; that to others it is a profession; and that, unhappily, to some it is but a trade. Examination will not, assuredly, change all this, yet there is little fear that the art of architecture will suffer by systematic study on the part of its votaries; and as the proof of it is now the key of admission to the ranks of the Royal Institute, there is good reason to believe that in time our patrons, the public, will recognise the difference between those who degrade architecture to the level of a trade, and those who, by suitable preparation, practise it as an art. The importance of this subject, particularly to the junior members of this Association, must be my excuse for this digression.

I will now return to our programme, and find that early next year Mr. J. A. Cossins will discourse on "Restoration" of Ancient Buildings." It is right that reverence for the work of past ages should be inculcated, and although Mr. Cossins has in the title of his Paper made use of a word which, as popularly understood, is looked upon as a reproach in connection with ancient buildings, I feel sure that his experience and good taste will lead him to make it clear that "Restoration" should imply the conservation of the art of the past, and not modern reproductions of old work, far less the wanton destruction of that which is venerable. Next we are to hear from Mr. Robert Hamilton something of the architectural excursion to Italy, and no doubt somewhat of those marvellous buildings from which architectural inspiration has been drawn for use in almost every civilised country of the world.

The "Preparation of Drawings for the R.I.B.A. Prizes" is the subject selected by Mr. H. R. Appelbee. This carries me back, in thought, well-nigh a quarter of a century, to my student days. What keen relish was experienced in those friendly rivalries! What magnificent "castles in "the air" were then sketched out, as little likely to be actually realised as the palaces on paper which, confident in our immature experience, we hoped would carry off the coveted prize! Relish more keen, I venture to say, than that which, in after years, has been experienced competing for work, when it became a question of bread-and-cheese; for then, to a sensitive mind, the fact would assert itself that only one could win, while disappointment would fall to the lot of many.

I am glad to find that Mr. Wenlock Rollins promises to give his ideas as to the "Modelling of Architectural Orna-"ment." Mr. Rollins is a sculptor, and, to my mind, something more than that term generally implies; for, if I judge aright, from my knowledge of his work, he cannot only develop an idea of his own artistically in wax or clay, and transfer it to bronze, stone, or marble, but is, in addition, willing to work out an idea originated by an architect, and make his work harmonise with the design, and thereby truly add to the embellishment of the building.

Mr. W. F. Newton has taken up the subject of "The "Planning and Decoration of Small Houses." Therein we know he is at home, so may expect from him some useful hints. "School Planning," on which Mr. Henry Beck will give us his views, is worthy of our careful attention, for I consider it is capable of higher developments.

Last, we have Mr. Herbert Lloyd, who, with the aid of a lantern, will show us some of the charmingly characteristic English Architecture of the Broadway District, and, no doubt, whet our appetites for the delights of collective study on future summer excursions. In addition to these various subjects of interest, members of this Association will have opportunities for mutual study in the classes of design and construction, and are invited to attend the able lectures of Mr. Bidlake in the School of Art, which it is hoped may attract many.

Even so slight a review of the bill-of-fare for the coming session must convince you of the vitality of this Association, and it leads one to ask why it is that we should band ourselves together thus to employ time and devote energies to the study of various problems connected with architecture. Of the many reasons which might be given in answer, there are two which probably stand foremost. As to the relative position in which they are esteemed by each one individually will depend greatly whether architecture is by him to be practised as an art or to become a trade. The reasons I have alluded to are, that we may fit ourselves to gain a living; and that by our works we may add to the health, the comfort, and the enjoyment of our fellow-beings.

If the former usurp the primary place in our estimation, the latter will probably lag behind, and perhaps be ultimately forgotten; but if the latter take the lead, the other will go hand in hand therewith; for, hard as the battle of life undoubtedly is, experience proves that reasonable thought exercised for the common weal rarely goes unrewarded, even in this world. By taking a lofty view of our noble art we shall realise that the welfare of each one of us should be to the advantage of many—ourselves included; for there is scarcely a phase of civilised human existence which is not made more healthful and pleasant—or the reverse—in proportion to the knowledge, ability, and care of the architect.

My observation leads me to this conclusion—that every well-designed building, carried out with care, develops continually a desire on the part of communities for other attempts to be made. It is true that rivalry is set up, but not always of an objectionable character. The late Mr. Edmund Sharpe told me that in perusing mediæval writings he was struck with the frequently displayed ambition of various sees, monastic and ordinary, ecclesiastical as well as civic communities, to outshine one another in their architectural efforts. This desire to excel not only results in work for architects, but adds to the importance and welfare of our cities and towns, in the present as in the past ages. It would, therefore, be a good thing if every local authority truly realised this, and that their laudable ambitions were ably given expression to by every architect. Communities would then consider it a reproach if their public buildings could with reason be adversely criticised. Individuals would vie with one another to have architecturally good and convenient business premises as well as private dwellings, and capable architects would be honoured and patronised as they deserved.

Some advance in this direction has, during the last few years, been undoubtedly made, but that "love of money, "which is the root of all evil" and the bane of good architecture, not only stifles the art, but disfigures every building with hideous signs and letterings, which make offensively prominent the names of those devoid of good taste and anxious to puff their questionable wares. The time has come when the public should protest against this vulgarity, and local authorities should obtain powers to suppress it, as in old times Acts of Parliament were passed to curb the excessive display of signboards which, compared with modern advertising methods, were greatly to be preferred for their generally artistic treatment and effect.

If, instead of detaining students for hours together in overheated and badly ventilated class-rooms of our schools of art, daubing paints and laboriously stippling, they were frequently conducted through the streets of our cities and towns, under the guidance of men of taste, and taught to appreciate the good in architecture, to despise what is base and degrading thereto, to observe the inartistic design of our lamp-posts, street nameplates, and other efforts of officialdom, we might hope that the next generation would not be oppressed by so many impecunious painters of mediocrity or the exhibitions flooded with their puerile productions, but in their place would grow up a healthy majority of men and women capable of appreciating that which is artistic, who would at least insist that our streets should not be made hideous as they are to-day, together with a minority of trained artists who would give suitable expression to the desire for beauty to reign in public places, as well as in private houses.

Such a revolution in popular artistic perception and work can only be brought about in the course of time: it must necessarily be of slow growth; but if never a voice be raised against the present deplorable state of things, they will go from bad to worse. Let me, then, urge all here ever to use their eyes; and when they are assured their judgment is ripe, to condemn without fear or favour what is false and vicious, yet never to grudge commendation to that which is true and worthy in art or in relation thereto.

In this age of hurry it is well that some things move slowly, in the hope that when times are ripe and ideas are matured men may rise endowed with power worthily to carry out desired objects. May this be the case with regard to our much-talked-of Birmingham Cathedral, so that when, some years hence, it is proposed to raise a memorial to a good and worthy Bishop or honourable and honoured citizen, and it is decided a cathedral shall be built, public appreciation of architecture may be so far advanced that the question will never be raised, as it has been this week, whether it would be practical to "convert "a Grecian (?) Church into a Gothic Cathedral." But if the taste and demands of that day determine that the site of St. Philip's Church shall be that of Birmingham's Cathedral, then I for one, although I give place to none in reasonable reverence for work of the past, and much admire the tower of that church, sincerely hope it will not be allowed to influence the style of a building which must necessarily be of greater importance; nor that it will simply make way for a "Gothic cathedral," but that the inhabitants of the city and neighbourhood will, with one voice and open purse, demand that the building shall be worthy its position, designed by able hands in the best style of the period.

As in the daily routine of our practical work we are all too frequently compelled to pass quickly from ideal thoughts to the commonplace, so must I now direct your attention to a prosaic matter of importance to the public as well as to our profession. For some time past it has been evident that in many districts there is friction between architects, on behalf of their clients, and the action of local authorities—or, to be more exact, the officials of such authorities.

During this week alone I have, as President of this Association, received two letters, one from a more northern city, the other from nearer home, calling attention to grievances, and asking that some united action may be taken to remove them. In one case it has reference to the depositing of plans, and the arbitrary manner in which they are passed, rejected, or deferred; and in the other case, to assistants in the office of the surveyor to a local authority undertaking work in connection with the building or alteration of premises.

I do not intend to enter upon these matters in detail this evening, because they have not yet been sifted by your Council; but I mention them in order to request that if any member has reliable information upon such or kindred

subjects, he will communicate it at once to our Hon. Secretaries. Fortunately, we have in Birmingham at the head of the Surveyors' department a gentleman capable and willing to take a broad and reasonable view of whatever may be brought before him. I refer to Mr. William Till. During last session he was approached with regard to some matters in connection with the building by-laws of the city, which, however, in consequence of the illness from which he has only recently recovered, have been allowed for a time to drop. In this city, by judicious action, I do not doubt that real grievances or hardships can, and will, be righted; but in localities under the rule of autocratic surveyors—and I am sorry to say there are such—reform may be more difficult. So long as paid officials are allowed to dabble in architecture, even reasonable by-laws framed for the protection of the public health may be made vexatious, and employed to bring grist to an illicit mill.

If Architectural Societies take this matter up, as I believe they may ere long, it must not be in the spirit of trade unionism or for selfish ends, but in true regard for the public welfare. I question very much whether our building by-laws, although ostensibly framed with that object, attain it as they should; partly because they practically "strain at a gnat" in their want of elasticity on many unimportant points, and "swallow a camel" by the open mouth they leave through which evasion is possible on points of true importance.

Look at the inconsistency in their administration throughout the Provinces—Metropolitan methods differ, and therefore are excepted—which relieves trained architects of their proper responsibilities by the intervention of comparatively uneducated building inspectors, who probably suppose *kudos* is to be gained by bringing to the notice of their local boards architects of repute for disregarding the letter of a by-law, while the jerry-builder goes scot-free, regardless both of the spirit and letter of by-laws and of the health of individuals and communities.

If there is to be reform in this matter, I venture to suggest that better building and greater attention to matters connected therewith in relation to safety and health might be secured by a few simple by-laws dealing broadly with important matters—such as the width of streets, height of buildings and open spaces about them, sanitary conveniences, and the like—if properly trained architects alone be permitted to design and superintend the erection of buildings, and they, as well as the owners of property, be held responsible for permitting the doing or omission of that which is proved will, or actually does, jeopardise the safety or health of the public, either individually or collectively. By such a system the cost of an army of inspectors would be saved, and better work would be produced, because architects would know their reputation to be at stake, and the public would learn that the services of those who have been properly trained are cheapest and best.

May our meetings here in part help on that education which will fit us for those happier days, so that when the call comes to anyone, he may prove that architecture is an art which not only gives enjoyment to the cultured, but can contribute to the health and well-being of his fellows, and bring him suitable reward!

LEGAL.

Alterations to House—District Surveyor's Fees.

MACLACHLAN *v.* LISTER.

On the 19th ult., at the Mansion House, Mr. MacLachlan, District Surveyor for the western division of the City, summoned Mr. Thomas Lister, a builder, for fees, under the Metropolitan Building Act, for the surveying of alterations to a house in Fleet Street. The claim was resisted on the ground that the alterations were not within the Building Acts. They consisted in the construction of certain closets—which are subject to the Public Health (London) Act 1891 and the supervision of the sanitary authority—the erection of two wooden partitions subdividing some rooms within the house by cutting a doorway in an internal partition wall, not a party-wall, and in some consequential alterations in the staircase. The District Surveyor contended that all these matters were within the provisions of section 9 of the Act of 1855. Against him it was argued that that section applied only to alterations which, if they had formed part of the scheme of a new building, would be subject to the rules of the Act as to walls, roof, and construction generally, and that the particular alterations were only internal fittings. This view the Lord Mayor adopted, and dismissed the summons. Application was made for a special case, which has, however, not yet been granted. The matter is one of considerable importance, for if the District Surveyor's contention be right, all partitions and screens put up in City offices are subject to survey, and the Surveyor entitled to charge fees on the scheduled scale for the whole of a large building when only one room is affected. And it is also important in another way, for if these things are subject to survey, a building notice must be given in respect to them.

New Buildings erected on Old Foundations—Failure to give Notice to Vestry.

BERMONDSEY VESTRY *v.* WILLIAMS.

On the 22nd ult., at the Southwark Police Court, before Mr. Fenwick, Mr. H. J. Williams, builder, and Councillor for Rotherhithe on the London County Council, appeared to answer a summons taken out on behalf of the Bermondsey Vestry, for "that he did, without having given the notice "directed by section 76 of the Metropolis Management Act "1855 (18 & 19 Vict. c. 120), begin to lay the foundation of "a warehouse or building at Suffolk Place, Bermondsey." For the Vestry evidence was given that early in the month of August last it was discovered that the defendant had erected a warehouse in place, and on the site, of an old building without having given the notice required under the Act. Counsel for the defence (Mr. Elliott) contended that the act of the defendant did not come within any section of the Building Management Act, and that he had done all that was required by the Act by giving notice to the District Surveyor, with plans, before he commenced the new building; and not having interfered either with the drains or the foundation, no notice to the Vestry was necessary, or could be required. It transpired that, although the old foundations were not interfered with, yet they were not considered to be sufficient for the proposed new building, and a layer of concrete was added, whereupon Mr. Fenwick said that that being the case he thought the Vestry's contention was right, that they should have had notice. Mr. Elliott said this was an important question, and he asked his worship to further consider the matter. Mr. Fenwick consented. Mr. Elliott then said that Mr. Williams was a builder, carrying on an extensive business, and was a member of the London County Council, and therefore it could be understood that he had no desire but to comply with all the requirements of the law. Mr. Fenwick said that if there had been any dereliction in the case it had been done in ignorance, and therefore he would reserve his decision. Commenting upon this case, the *Law Journal* says there seems to have been some confusion in the minds of counsel and the magistrate between the Building and the Management Acts. Obligations towards vestries arise under the Management Acts, including therein Michael Angelo Taylor's Act, and they have under these Acts the duty of inspecting foundations and drains and of licensing hoardings, quite apart from the duties of the County Council and its surveyors under the Building Acts.